A stakeholder analysis of Macquarie Island

Identifying opportunities and constraints, and facing the future

Jennifer Parnell

BNEWS (honours)

This thesis is submitted as partial requirement of a Bachelor of Natural Environment and Wilderness Studies (honours) at the School Geography and Environmental Studies, University of Tasmania, 2007.

Statement of Authenticity

No materials contained within this thesis have been accepted for the award of another degree within any tertiary institution. This thesis contains no materials that have been written or published by another, to the best of my knowledge, except where indicated and referenced in the text.

Jennifer Parnell
June 2007

Abstract

Macquarie Island (MI) is a remote oceanic island located half way between Tasmania and Antarctica. It falls under the jurisdiction of Tasmania and is managed by the State as a restricted nature reserve. MI has been recognised internationally as a world heritage area and biosphere reserve, and at the national level it has been placed on the Register of the National Estate. The management regime for MI is complex, reflecting an elaborate regulatory framework typical of a protected area in Australia's federal system. Central to this regime is the newly revised Macquarie Island Nature Reserve and World Heritage Area Management Plan (MINR Plan) that came into effect in 2006.

MI has a multitude of stakeholders borne from the management regime, historical and contemporary context of human use, and environmental movement. Stakeholders are defined by their ability to influence, or be influenced by the management regime. Their power, legitimacy and urgency in terms of management decisions and practices form the basis for stakeholder relations and are central to this research.

MI is on the cusp of an uncertain future. There has been a recent shift in the relationship between key stakeholders as their interests have changed to reflect new priorities and fiscal realities. This research utilises the theoretical conceptual framework of stakeholder analysis to determine the power to influence and capacity to lead of stakeholders, and their knowledge and values. This is followed by an analysis of stakeholder characteristics in relation to conservation and human use management outlined in the MINR Plan, and four topical issues that may significantly influence management practices and MI's future.

The research aims to determine the effectiveness of the Plan in its implementation and discuss its feasibility and relevancy, and consider the management implications of the four topical issues. Finally, the opportunities, constraints and future prospects for MI are considered from the perspective of stakeholders.

The research found that management decisions and practices implemented under the Plan are undermined by the lack of effective consultation between stakeholders. An inclusive forum does not exist and therefore less powerful stakeholders do not have

access to definitive stakeholders. The lack of consultation prevents information transfer and weakens support for management decisions and practices. Furthermore, the management authority is under resourced and unable to effectively consult with other stakeholders or fully implement the Plan. It also lacks the capacity lead and consequently many of the issues emerging from the implementation process remain unresolved.

The analysis and discussion highlights the failures inherent in MI's management regime. The informal domination by the Commonwealth gives it greater influence over management decisions and practices. This position is strengthened further as the State is reliant on the Commonwealth for logistical resources. This unusual situation has resulted in a great deal of conflict, which underpins intergovernmental relations.

In addition, there is a great deal of mistrust between stakeholders due to the uncertainty surrounding the availability of logistical resources. This uncertainty has prevented a number of stakeholders from developing strategic long term plans. Moreover, decision making within the management regime lacks transparency and stakeholders have become disillusioned with the current approach to management.

Stakeholders are in agreement that effective management can be achieved if an independent approach that is inclusive of stakeholders and their interests is adopted. Such an approach may resolve some of the uncertainty surrounding the intentions of the Commonwealth, thus allowing others stakeholders to plan strategically. It would also improve consultation, augment authority and resources, and promote transparent decision making. The focus could therefore shift from the many problems that surround management decisions and practices to the perusal of a collective and assured future.

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Acronyms & Abbreviations

AFMA	Australian Fisheries Management Authority
AAD	Australian Antarctic Division
AAP	Australian Antarctic Program
ANARE	Australian National Antarctic Research Expeditions
AQIS	Australian Quarantine & Inspection Service
ASAC	Australian Scientific Advisory Committee
AT	Antarctic Treaty 1959
BCB	Biodiversity Conservation Branch (TAS)
BoM	Bureau of Meteorology (Cth)
DED	Department of Economic Development (TAS)
DEWR	Department of Environment & Water Resources (formerly the Department of Environment and Heritage) (Cth)
DPIW	Department of Primary Industries and Water (TAS)
DTAH	Department of Tourism, Arts and the Environment (TAS)
EEZ	Economic Exclusion Zone
EPBC	*Environment Protection and Biodiversity Conservation Act 1999* (Cth)
HIMI	Heard Island and McDonald Island
IAATO	International Association of Antarctica Tour Operators
IASOS	Institute of Antarctic & Southern Ocean Studies
IUCN	World Conservation Union
MAB	Man and the Biosphere Program (UNESCO)
MI	Macquarie Island
MIMP	Macquarie Island Marine Park
MINR	Macquarie Island Nature Reserve
MINR Plan	Macquarie Island Nature Reserve and World Heritage Area Management Plan 2006 (TAS)
MIRAG	Macquarie Island Research Advisory Group
NHT	National Heritage Trust
NRM	Natural Resource Management
PWS	Parks & Wildlife Service (TAS)
RAMSAR	International Convention of Wetlands
RIC	Ranger in Charge (PWS)
RPDC	Resource Planning and Development Commission
SA	Stakeholder Analysis
SL	Station Leader (AAD)
TPN	Tasmanian Polar Network
TMAG	Tasmanian Museum and Art Gallery
TRBG	Tasmanian Royal Botanical Gardens
UNESCO	United Nations Educational Scientific and Cultural Organisation
UTAS	University of Tasmania
WHA	World Heritage Area
WHC	World Heritage Committee

1. Introduction

Macquarie Island (MI) is a remote sub-Antarctic island, which falls under the jurisdiction of Tasmania. It has been ascribed a high level of protection for its unique natural and historical values and is governed by a complex management regime typical of a protected area in Australia's federal system. MI's values are of interest to a range of actors and institutions that partake in activities related to MI or have statutory authority. These stakeholders are defined by their ability to influence, or be influenced by, management decisions and practices.

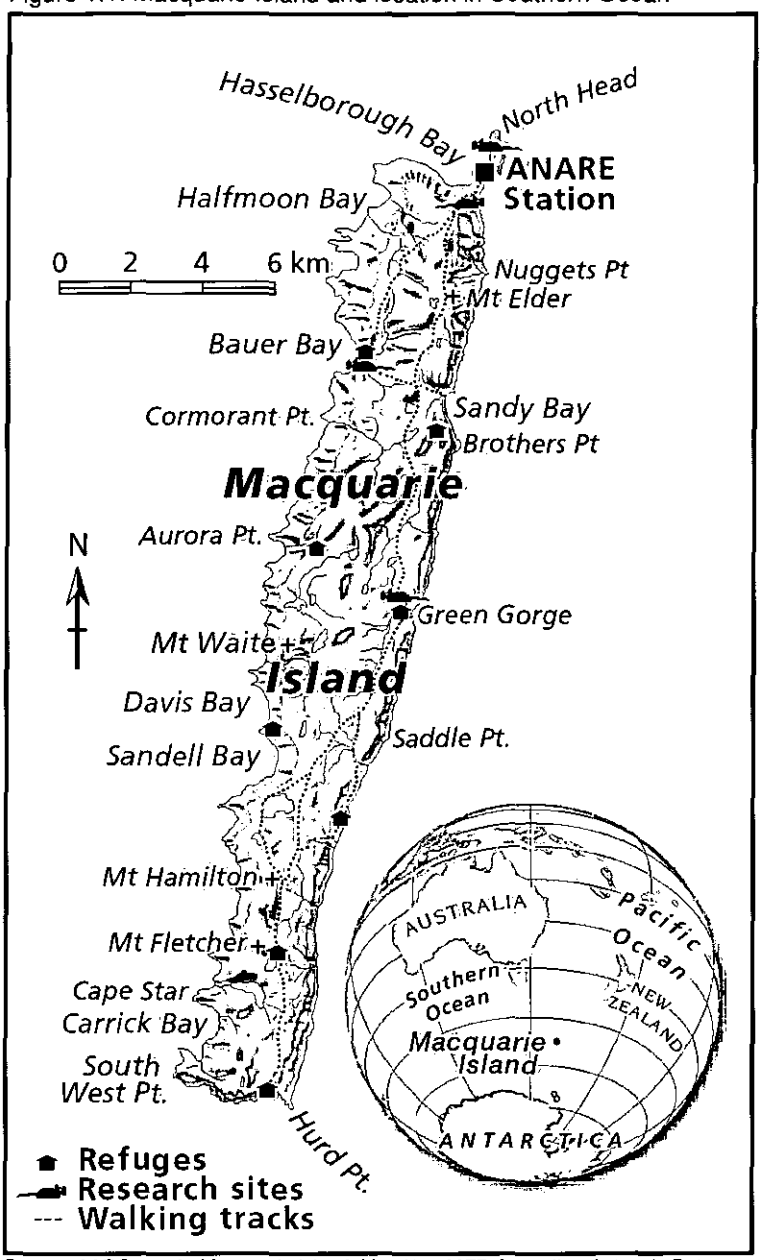
This chapter introduces MI in the context of its location, values, historical significance, protection and management and contemporary human use. A brief outline is given of the key issues that MI now faces and the uncertainty that these issues have created for its future and the future of stakeholders. This is followed by the research aims, significance, research approach, and an assessment of the limitations and risks.

1.1 Background

MI (54° 30' S, 158° 57' E) is part of a remote sub-Antarctic island group north of the Antarctic convergence, 1,466 km SSE of Tasmania and 1,294 km N of the Antarctic (figure 1.1). The Island is 34 km in length and up to 5 km wide. Behind its beaches and rocky coastline, steep escarpments rise to an undulating plateau varying in height between 200m and 433m above sea level at Mt Hamilton, its highest peak (Davis, 1988).

MI is formed entirely of oceanic crust and is geologically unique (Bryden, 1988). It is the exposed crest of the undersea Macquarie Ridge that forms part of the boundary between the Australian and Pacific tectonic plates. Small islets also form part of this ridge; Judge and Clerk Islets lie 11 km to the North and Bishop and Clerk Islets lie 37 km to the South of the main island.

Figure 1.1: Macquarie Island and location in Southern Ocean



Source: AADC, 2003. *Macquarie Island, Map No.12977.* Australian Antarctic Data Center. http://aadc-maps.aad.gov.au/database/mapcat/maccais/macquarie.pdf, accessed 15 February 2007.

Strong winds and stormy seas regularly lash MI as it lies in the path of the 'furious fifties', a westerly flow that circulates the Southern Ocean. The climate is cool-temperate, with little seasonal variance. It is dominated by strong westerly winds, low cloud cover, high precipitation and little temperature variation (PWS, 2006a).

As one of the few landmasses located in the Southern Ocean, MI is an important refuge and breeding spot for wildlife including king, gentoo and rockhopper penguins, endemic royal penguins, albatrosses and petrels, fur seals, and a significant colony of elephant seals (Kriwoken et al., 2006). Vegetation formations include tussock grass, feldmark, mire, herbfield and fernbrake (WCMC, 1997).

1.1.1 European history

MI has a long and varied history of European occupation that began with discovery in 1810 by the sealing brig the *Perseverance*. A century of resource exploitation followed. Sealing commenced in earnest but the seal population declined after tens years and it soon became unprofitable. Oil extraction from elephant seals and penguins replaced sealing and continued until 1919. Evidence remains of this industry with the remains of trypots and digesters dotted along the west coast and at the isthmus (Townrow, 1988).

Contrary to the industriousness of resource exploitation, scientific interest was far slower to develop. Scientists began visiting from 1833 and often commented on the abundance of unique wildlife (Bryden, 1988). Notable expeditions during the 1800s included New Zealand academics Scott (1883) and Hamilton (1895), with the latter carrying out the first known systematic collection of flora and fauna (PWS, 2006a).

Long-term scientific interest began with the Australasian Antarctic Expedition (AAE) of 1911-1914, led by Sir Douglas Mawson. A base was established as a wireless station to relay communications between Antarctica and Australia, and as a meteorological observatory (Selkirk *et al.*, 1990). Mawson was an instrumental figure in bringing to an end oil extraction and gaining protection for MI. It was declared a wildlife sanctuary in 1933.

A permanent research station was established in 1948 under the auspice of Australian National Antarctic Research Expeditions (ANARE) and has been occupied continuously to date. ANARE was a Commonwealth program operating under the Australian

Antarctic Division (AAD), which has since been replaced with the Australian Antarctic Program (AAP).

MI is considered an important site for scientific research due to its isolation. Areas of interest include biogeography, ecology, biology, geology, meteorology, climatology, and physics (Selkirk *et al.*, 1990). The scientist and managers who live and work on the Island may be transient, but according the Kriwoken *et al.* (2006), they often form a strong bond and retain a strong interest in the issues that surround MI, thus forming a quasi-island community.

1.1.2 Protection and management

MI is a dependency of Tasmania and as such comes under State jurisdiction. It was initially declared a wildlife sanctuary in 1933 under the *Tasmanian Animals and Birds Protection Act 1918* (TAS). Since then, its status as a protected area has undergone significant change.

In 1972 it became a Tasmanian state reserve and was upgraded to a nature reserve in 1978 and extended to the low water mark to include all offshore islets. It became a restricted area in 1979 and all visitors are now required to acquire permits from the management authority to gain access (Kriwoken *et al.*, 2006). In 1977, it was recognised nationally when it was placed on the Register of the National Estate (PWS, 2006a).

MI was also recognised internationally in 1977 as a Biosphere reserve under the United Nation's Educational, Scientific and Cultural Organisation (UNESCO) Man of the Biosphere (MAB) Program. This designation was unique among the islands of the Southern Ocean and presented an unrivalled opportunity to study human interactions with the environment on an ecosystem and bioregional level.

Under the Biosphere Program research focused on providing scientific reference points for assessing air quality, pollution, radioactivity levels, metrological effects, and the impact of alien species and human activities (Davis, 1988). In 1997, it was again

recognised internationally after it was accepted onto the World Heritage list for its geological and natural values.

Up until the late 1990s the waters surrounding MI beyond State jurisdiction (up to three nautical miles) were not included in the protection regime. This oversight was rectified in 1999 when the Commonwealth Government declared a substantial marine park consisting of 16.2 million hectares off the east coast.

The Macquarie Island Marine Park (MIMP) includes a highly protected zone (IUCN Ia) sandwiched between two habitat management zones (IUCN IV) (Environment Australia, 2001). As the park is designated in Australia's Economic Exclusive Zone (EEZ) it is the responsibility of the Commonwealth. The State Government maintains responsibility over coastal waters up to three nautical miles as part of the MINR.

The authority responsible for strategic planning and day to day management is the Parks and Wildlife Service Tasmania (PWS). It released the first management plan in 1991 in accordance with the *Tasmanian National Parks and Wildlife Act 1970*. The plan was prescriptive and based on the principles of strict conservation including maximum protection for the natural and historical assets, repairing past damage, encouraging research, and catering for and managing limited tourism (DPWH, 1991).

A review of the management plan has recently been undertaken with the Macquarie Island Nature Reserve and World Heritage Area Management Plan (MINR Plan) coming into effect in July 2006. The revised objectives are to protect and promote the conservation values of MI by controlling and managing human visitation, supporting scientific research, preventing further alien introductions and managing established pests (PWS, 2006a).

The MINR Plan has been prepared in accordance with the *National Parks and Reserves Management Act 2002* (Tas), *Nature Conservation Act 2002* (Tas), and *Tasmania's Antarctic, Sub-Antarctic and Southern Ocean Policy 2004* which refers to the nature reserve and MIMP as '... treasures in Tasmania's reserve system' that are a focus for historic interpretation, tourism and major scientific endeavours (Antarctic Tasmania, 2004, 6).

The MINR Plan is a comprehensive document with a 50 year vision for the future. It outlines management objectives, policies and prescriptions for the conservation and protection of reserve values, management of human use, and community support and consultation (PWS, 2006a). It has been developed on the principles of strict conservation in accordance with the high level of protection ascribed to MI.

1.1.3 Contemporary human use

With the establishment of the station, research has become the most prolific human activity. Research priorities are set at the federal level through the Australian Antarctic Program (AAP), which is managed by AAD. The State also conducts research based on its own priorities, concentrating on applied science and conservation that is relevant to management.

The research opportunities have generated significant interest with individuals and institutions, locally and around the world. As a gateway to the South, Hobart hosts a high concentration of research institutions associated with the Southern Ocean and Antarctica (Antarctic Tasmania, 2004). The Antarctic sector in Hobart is strong with a range of spin-off industries contributing to Tasmania's economy.

MI is an integral part of the Australian and New Zealand Antarctic tourist experience. Regular commercial tourism commenced in 1987 (PWS, 2006a) it is now a popular stopover point on longer voyages originating in New Zealand or Australia that visit the Ross Sea, Antarctic continent, and New Zealand's sub-Antarctic Islands.

MI is only accessible by sea and visitation is limited to expedition style shipborne transport. As there is no wharf infrastructure visitors are ferried ashore in small zodiac type inflatable boats or by helicopter. For commercial tourists, this creates a sense of isolation, adventure, risk and excitement. According to Kriwoken *et al.* (2006), passengers can generally be considered hardcore ecotourists; a result of the long arduous sea journey, high level of onboard interpretation, high interest in the environment and scientific research, and a prevalence for pro-environmentalist thought.

Many people will never have the opportunity to actually visit MI as it requires a significant investment in terms of time and money. Nevertheless, it is of interest to the public in general and thus has value off the reserve. Community involvement is important for raising awareness and engendering support for management practices (PWS, 2006a). There are a number of educational facilities, displays and events in and around Hobart that focus on MI. In addition to raising awareness, they also form part of the Antarctic tourist experience.

1.1.4 Current issues

A range of actors and institutions have a interest in MI. They are stakeholders and represent a diverse interests, including conservation management, scientific research, education, biosecurity, economic development, tourism, local business opportunities, and politics. Stakeholders participate in activities related to MI or have authority over its management. Their stake is determined by their ability to influence, or be influenced by, MI's management regime.

There are a number of key issues that are impacting upon management decisions and practices that are being driven by convergent and/or conflicting stakeholder interests. Foremost is the implementation process of the MINR Plan. Concern has been raised about the relevancy and feasibility of the Plan, and the lack of consultation with stakeholders regarding ongoing management (Antarctic Tasmania, 2005). In addition, there are four other issues, which the Plan does not address in detail. These issues are outlined in brief below.

AAD announced at the beginning of 2006 that it would withdraw from operations on MI in response to a shift in the national research priorities for the AAP (ABC Online, 10 January 2006). AAD is the primary provider of logistics for all research on MI, including state research and conservation management. A withdrawal would have significant consequences for long term research and management, and would considerably alter stakeholder relations. AAD has yet to confirm its intentions.

The ecological integrity is currently under threat from an exploding rabbit population. Rabbits are a legacy of early uncontrolled human visitation. They are eating hillside vegetation and soil stability has been undermined, threatening burrowing species including the four albatross species, and causing landslips (PWS & BCB, 2007). Although an eradication plan for rabbits and rodents has been developed, the State and Commonwealth Governments cannot agree on a funding package, and the program has not progressed beyond the planning stages.

The battle between the State and Commonwealth over who should fund the eradication program has resulted in a secondary debate emerging regarding jurisdictional arrangements. It has been suggested that MI should be ceded to, and managed by, the Commonwealth as the State Cabinet has refused to contribute any money to the program (Paine, 2007; WWF, 26 March 2007). This debate raises interesting questions regarding political will and the lack of prior contractual arrangements between the State and Commonwealth and will continue until a long-term funding package is decided on.

The University of Tasmania (UTAS) has put forward a proposal to establish a field camp to provide polar experiences to its Antarctic students and training in specialised areas of Antarctic science (McMinn, 2005). It would provide a unique educational product and opportunity for students. A field camp would differentiate UTAS from other Australian universities and value add to its core business. If it goes ahead, UTAS would become a definitive stakeholder and have a much greater influence over management.

1.2 Aims

This research aims to determine the effectiveness, feasibility and relevancy of the MINR Plan in its implementation, consider the management implications of the four topical issues outlined above, and reflect on the future prospects of MI in the next five to ten years. Stakeholder analysis is the theoretical framework that will be utilised to achieve this. It will identify who has a justifiable stake in MI, who has power to influence management and the capacity to lead on an issue, what their interests are and how they operate to serve them, and what alliances and/or conflict has, or may, arise that would strengthen or weaken their position.

1.3 Significance

This research is significant as it identifies key stakeholders and draws out their values, interests, attitudes and aspirations. A comprehensive analysis of stakeholder characteristics is carried out to determine the importance of stakeholders and how they may affect management decisions and practices. All stakeholders are given the opportunity to participate and express their views in an independent setting. The findings will be useful to participating stakeholders as a means of finding common ground and facilitating more coherent and open dialogue. It is hoped this research will engender more transparent, inclusive and cooperative decision making processes that will benefit MI.

1.4 Research approach

The research approach consisted of an evaluation of the literature and semi-structured interviews with key informants. The literature review examined the management regime of MI at the international, national, state and local levels, introduced the stakeholders and discussed their interests and interrelations with each other, and developed the framework for the stakeholder analysis.

The semi-structured interviews elicited stakeholder values, perceptions, opinions and insights into specific policies relating to human use in the MINR Plan and the four current issues not referred to in the Plan. This method was utilised to gain an in-depth understanding from a small number of knowledgeable participants (Bradshaw & Stratford, 2000; McCracken, 1988).

The interviews ranged between 45 and 75 minutes in duration and loosely followed a schedule of questions (appendix A). A pilot survey was conducted to ensure the questions were suitable, comprehensive, relevant and appropriate. The pilot interview was very insightful and bought about a major re-working of the research aims. The schedule of questions was revised to reflect these changes.

The revised schedule of questions, an information sheet, and a consent form were sent out to key informants in accordance with procedures set down by the Tasmanian Social Sciences Human Research Ethics Guidelines. Key informants were selected on two premises: their relevant experience in either sub-Antarctic tourism, conservation management on sub-Antarctic islands, or support and logistics of sub-Antarctic operations, and; as representatives of key stakeholders.

In general, the interviews closely followed the schedule of questions as the time constraints imposed by the limited duration of the interview precluded too many additional questions from the interviewer. The participant, however, was given the opportunity and encouraged to expand on a particular theme and clarify their position, as the nature of semi-structured interviews dictates some flexibility in the interview process (Veal, 1997).

Although the participant was given the freedom to express their opinion, ultimate control over the direction of the interviews remained with the interviewer. The interviews were summarised and analysed to determine how important stakeholders are in relation to each other, what impact stakeholder characteristics have on management decisions and practices, and the opportunities and challenges facing effective management in the future. The emergence of key themes, concepts and trends underpins the analysis.

1.5 Limitations and risks

To ensure the credibility and validity of this research, the limitations and risks were considered and are duly conveyed. A number of key stakeholders recognised in the literature review were not available to participate and a balanced representation of stakeholders was not achieved, which has significant implications for the research. First, non-participating stakeholders may elicit information about participating stakeholders that may not have otherwise been available to them and without contributing to the research in kind. Second, conclusions may be drawn in favour of participating stakeholders, thus undermining the objectiveness of the findings.

The principle researcher has limited experience as an interviewer. According to Weal (1997) and McCracken (1988), poor interviewing techniques such as intrusive behaviour, asking leading or closed questions and probing too deeply into sensitive issues would undermine the validity of the results. Keeping this in mind, the principle interviewer made every effort to conduct the interviews appropriately, giving participants the opportunity to read their interview summary prior to the analysis. This ensured their views were accurately recorded and represented, although only one participant actually took up the offer.

Finally, the very remoteness and inaccessibility of MI that has made it so attractive to the researcher to study has unfortunately resulted in the researcher not securing the opportunity to visit in person. Although not essential for the purpose of the research and unlikely to impact upon the validity of the findings, without firsthand experience the research may not convey a true understanding of the MI's environs and what it means to the people associated with it.

1.6 Chapter outline

This thesis contains six chapters:

- Chapter 2 provides a detailed account of the management regime that governs MI and how international and national regulatory requirements have impinged on the mandate of the State. It focuses on the MINR Plan and in particular the policies and prescriptions for the conservation and protection of reserve values and management of human use.

- Chapter 3 provides a synopsis of MI's stakeholders, their claims, interests and interrelationships. The topical issues surrounding MI and its stakeholders are also discussed, thus setting the scene for the stakeholder analysis in Chapter 4 and discussion in Chapter 5.

- Chapter 4 explores the stakeholder approach towards analysis by providing an overview of its origins in management and public policy literature, revealing what can

be determined from a stakeholder analysis, examining its strengths and weaknesses and presenting a step by step guide to carrying out a successful analysis.

- Chapter 5 provides the results of the investigation, including the research starting point, a pictorial process of stakeholder identification, and a list of actual participants, their values in general, power and influence, and knowledge of the Plan. This is followed by an analysis of stakeholder characteristics in relation to specific management policies detailed in the Plan and additional pressing issues that are affecting management decisions and practices but are not referred to in the Plan.

- Chapter 6 discusses the results presented in chapter 4 with reference to the information provided in chapters 2 and 3 and the key informant interviews. The results are scrutinized to determine the importance of stakeholders, how effective, relevant and feasible stakeholders perceive the Plan to be, and how stakeholders can affect management decisions and practices now and in the future. This chapter also brings the thesis to a close by presenting the key findings and deliberating on how good management outcomes can be achieved.

2. Macquarie Island: management regime

2.1 Introduction

MI is unique and highly valued and a focal point for research, commercial tourism and conservation management. The management regime is complex, consistent with federalism in Australia that incorporates the international, national, state and local contexts. This chapter provides a detailed account of the management regime and how international and national regulatory requirements have impinged on the mandate of the state. It focuses on the MINR Plan and in particular the policies and prescriptions for the conservation and protection of reserve values and management of human use.

A complex management regime governs MI. This regime embodies the intricacies of Australian federalism and also the difficulties associated with managing such a remote ecologically valuable area of land. MI is a dependency of Tasmania, proclaimed as such by the Lieutenant Governor of the Island of Van Dieman's Land, Colonel George Arthur in 1825 in his notification of the separation of Tasmania from the Colony of New South Wales (Hobart Town Gazette, 1825). In 1889-90 the New Zealand Government attempted to annex it on the basis that much of the early exploitation and scientific interest was by New Zealand (Quilty, 2005). The attempt was unsuccessful and Tasmania maintained its sovereign claim.

The management regime is based on intergovernmental arrangements between the State and Commonwealth Governments. MI itself, its outlying Islets and surrounding waters to three nautical miles are under the jurisdiction of the State. The waters from three to 200 nautical miles have been claimed by the Commonwealth, with an extension of this claim to the south to include the continental shelf (Commonwealth of Australia, 2004). The Commonwealth Government also has responsibility as a signatory of a number of multilateral and bilateral conventions to ensure the ongoing maintenance of MI's heritage values and this responsibility has been incorporated into Australian environmental law. Table 2.1 provides an overview of this and illustrates just how complex this regime is.

Table 2.1: Management regime that designates MI status as an internationally recognised protected area, directs strategic planning, and governs day to day management and operations

International	World Heritage Convention 1975 (criteria *i* and *iii*)
	UNESCO Man and the Biosphere program 1970
	Convention on Biological Diversity 1992
	Bonn Convention
	Agreement on Conservation of Albatrosses and Petrels 2001
	Antarctic Treaty System
	Convention for the Conservation of Antarctic Seals 1972
	Convention on Conservation of Antarctic Marine Living Resources 1980
	United Nations Convention on the Law of the Sea 1982
	International Convention for the Prevention of Pollution from Ships 1973/78
	Japanese Australia Migratory Bird Agreement 1981
	Chinese Australia Migratory Bird Agreement 1989
Commonwealth	
Legislation	Environmental Protection and Biodiversity Conservation Act 1999
	Historic Shipwrecks Act 1976
	Quarantine Act 1908
Policies & strategies	Australia's Ocean Policy 1999
	National Strategy on Conservation of Australia's Biological Diversity 1996
	National Strategy on Ecological Sustainable Development 1992
Programs, initiatives & plans	Australian Antarctic Program
	National Research Priorities 2002
	National Representative System Marine Protected Areas
	Burra Charter 1979
	Macquarie Island Marine Park Management Plan 2001-2008
	National recovery plans, action plans and threat abatement plans, pertaining to:
	Preservation of native species
	Eradication of feral species
Intergovernmental	Intergovernmental Agreement on the Environment 1992
	Offshore Constitutional Settlement 1979
State	
Legislation	National Parks and Reserves Management Act 2002
	Nature Conservation Act 2002
	Plant Quarantine Act 1997
	Threatened Species Protection Act 1995
	Historic Cultural Heritage Act 1995
	Resource Management and Planning System, including:
	Land Use Planning and Approvals Act 1993
	State Policies and Projects Act 1993
	Environmental Management and Pollution Control Act 1994
	Living Marine Resources Management Act 1995
Policies & strategies	Tasmania's Antarctic, Sub-Antarctic and Southern Ocean Policy 2004
	Tasmanian Natural Resource Management Framework 2002
	Threatened Species Strategy for Tasmania 2000
	Tasmanian Nature Conservation Strategy 2002-2006
	Tasmanian Marine Protected Areas Strategy 2001
Programs, initiatives & plans	Tourism 21 2004-2014
	Tasmania Together 2001-2020
	Macquarie Island Nature Reserve Management Plan 2006

Sources: PWS, 2006a; RPDC, 2005; Environment Australia, 2001.

2.2 International context

MI was first recognised on the international stage in 1977 when it became a reserve under the United Nation's Educational, Scientific and Cultural Organisation (UNESCO) Man and the Biosphere Program. The Biosphere Program focused on studying human interactions with the environment on an ecosystem and bioregional level with the purpose of providing scientific reference points for assessing air quality, pollution, radioactivity levels, metrological effects, the impact of alien species and human activities (Davis, 1988). It was the only designation under this program in the Southern Ocean and therefore provided a unique opportunity for scientific research in the region.

In 1997 MI was registered as a World Heritage Area (WHA). This designation covers nature reserve and surrounding waters to 12 nautical miles and thus intersects both State and Commonwealth jurisdiction (PWS, 2006a). It is listed for its unique geological and landscape values, fulfilling criterion ii and iii of the *World Heritage Convention 1975*. The initial nomination by the Commonwealth of Australia also included biological values but this was declined by the World Heritage Committee (WHC) on the grounds that the nomination was too narrow (UNESCO, 1997). A revised nomination was resubmitted and accepted at the 21st Session in Naples.

MI is currently under consideration for a nomination under the *Convention on Wetlands of International Important especially as Waterfowl Habitat* (Ramsar). MI is a significant site for its unique sub-Antarctic inland peat-lands and substantial progress has been made towards its nomination (Ramsar, 2005). The nomination was put together by Tasmanian Department of Primary Industries and Water (DPIW) and had the Minister's endorsement for submission, however, the Ramsar Bureau changed the format for nominations and as a result the Commonwealth Government decided each nomination would require an ecological character description. To date, this has not yet been completed and the nomination is on hold (Blackwell, pers.com. 2007).

Influential international conventions that relate to MI include the *Convention on Biological Diversity* (CBD), *Convention on the Conservation of Migratory Species of Wild Animals* (Bonn Convention) and the *International Convention on the Regulation of Whaling.* MINR and MIMP play an important role in Australia's protected area system as they

provide protection and habitat conservation for sub-Antarctic and Antarctic terrestrial and marine species, in particular migratory species some of which are under threat. In addition the Commonwealth has declared its entire EEZ, including around MI a whale sanctuary (NOO, 2001). Establishing protected areas is a method encouraged under the CBD to promote the conservation of biodiversity (CBD, 1992).

Although MI sits just north of the Antarctic Convergence, the *Antarctic Treaty System* (ATS) is still relevant. MI is a refuge for a variety of migratory species which traverse and forage below 60° South. As a result, the *Convention for the Conservation of Antarctic Seals* 1972 and the *Convention on the Conservation of Antarctic Marine Living Resources* (CCAMLR) 1980 are both relevant for the protection of seals and the sustainable management of marine life that migrate between MI and the polar region (PWS, 2006a).

2.3 Federal context

MI is a site that embodies natural and cultural heritage values both at land and sea that are of national significance. In 1977 it was placed on the Register of the National Estate for its high bio-geographic significance, unique flora and fauna, valuable habitat for migratory species, geological values, and historic and archaeological significance (AHC, 2007). The historical and archaeological values bring into play the *Australia International Council on Monuments and Sites* (ICOMOS) Charter for the Conservation of Places of Cultural Significance (Burra Charter). The principles of the Burra Charter guide the management of the cultural and historic sites at MI (PWS, 2006a).

In 1999 the Commonwealth Government declared a marine protected area in the south eastern sector of the EEZ (3-200 nautical miles). MIMP makes a considerable contribution to the National Reserve System of Marine Protected Areas (Environment Australia, 2001). As it falls under the jurisdiction of the Commonwealth it is managed by National Parks, an agency of the Department of Environment and Water Resources (DEWR).

At the federal level the *Environment Protection and Biodiversity Conservation* (EPBC) Act 1999 (Cth) incorporates the management principles of the various international environmental conventions that relate to MI, in addition to the IUCN principles for protected area management. This key piece of environmental legislation streamlines the national assessment and approvals process for areas of national significance and Commonwealth land, protects biodiversity, and integrates management of important natural and cultural sites (DEWR, 2007a). Through this mechanism the management principles associated with environmental protection and sustainable use of resources accepted by Australia are filtered into national and state legislative frameworks.

The unique and vulnerable environment of MI has been subjected to two centuries of seasonal human occupation. Human visitation and use has led to the introduction of alien species and had a significant impact on native flora and fauna. The Island has been placed on the Register of Critical Habitat under the *EPBC Act*. There are also a number of national recovery, action and threat abatement plans at the federal level that directly relate to MI, specifically the protection and conservation of threatened species and the management of alien species (PWS, 2006a).

A permanent research station was established in 1948 by AAD and has been occupied continuously ever since. The role of AAD was to administer and coordinate ANARE, a collaborative organisation with a central focus on scientific research (AAD, 2006). ANARE has since been replaced by AAP, although AAD continues to manage the station and provide operational and logistical support to a range of agencies who conduct scientific research on MI.

2.4 State context

MI falls under Tasmanian jurisdiction and is therefore subject to State legislation pertaining to land management, environmental and wildlife protection, natural resource management, transport and quarantine (see table 2.1). There is also various State Government documents and strategies that affect management, some of which will be discussed in more detail in this section.

In 2004 the State released its Policy for the Antarctic, sub-Antarctic and Southern Ocean. It was produced by Antarctic Tasmania, an agency of the Department of Economic Development (DED). The policy has a vision of building on Hobart's reputation as a premier Antarctic Gateway, by increasing the economic contribution of Tasmania's Antarctic community, raising the profile of Hobart's contemporary and historic links with the South, and supporting endeavours to improve the understanding and management of the Antarctic, sub-Antarctic and Southern Ocean (Antarctic Tasmania, 2004).

The Policy acknowledges that AAD is reassessing its position in regard to its operations on MI and that State Government agencies may potentially loose logistical support for conservation management if AAD scale back or withdraw. It does not, however, provide an explicit strategy for MI and thus fails to deliver a way forward in terms of managing environmental concerns with tourism and scientific research in the face of a potentially reduced logistical capacity.

MI provides refuge for 15 species that are under threat and therefore the *Threatened Species Protection Act 1995* (TAS) and *Threatened Species Strategy for Tasmania 2000* both apply. The Strategy approaches conservation of threatened species through the identification of threatened species and by addressing threatening processes (NCB, 2000). The key instrument is threat abatement plans. The State has adopted two plans that apply to MI: the Sub-Antarctic Fur Seal and Southern Elephant Seal Recovery Plan 2004-2009, and the Recovery Plan for Albatrosses and Giant Petrels 2001-2005 (currently under review after completion). Both plans were developed at the federal level by the National Heritage Trust and DEWR, and implemented in conjunction with PWS and the Biodiversity Conservation Branch (BCB).

Recognised for its high natural values, MI is subject to the *Tasmanian Natural Resource Management (NRM) Framework.* The NRM Framework integrates natural resource management to improve natural resource outcomes in a whole of government approach (PWS, 2006a). NRM strategic priorities and recommendations for funding are determined by a regional intra-government Committee. MI falls under the Southern Region. The *NRM Strategy for Southern Tasmania* indicates that the damage to MI's natural processes from feral animals, particularly rabbits, is of great concern and

developing an eradication plan is a NRM priority. The Strategy stipulates that this should be completed and in the process of being implemented by 2006 (NRM South, 2005).

MINR Management Plan 2006

The management authority for reserves in Tasmania is PWS and thus far there have been two management plans developed for MI. The first came into effect in 1991 in response to mounting pressure to manage commercial tourism operations (Stephenson, 1990). The objectives of this early Plan were to provide maximum protection for the natural and historical assets of Macquarie Island, repair past damage as far as reasonably possible, encourage research of its natural and historical features, and to cater for and manage limited tourism (DPWH, 1991).

In 2006 it was superseded by the MINR Plan. This later Plan addresses the management responsibilities of MI as a WHA, in addition to other relevant international conventions and agreements, and federal and state policies, strategies and initiatives that have been implemented since 1991. It is a comprehensive document that is divided in to two parts: Part A provides a detailed account of the natural values for which MI has been protected, a description of the reserve and an outline of the management framework; and Part B outlines the management policies and prescriptions for the conservation and protection of reserve values and management of human use.

The Plan has a vision statement for 50 years hence. Under the vision, the natural values for which MI is recognised are protected and conserved, the natural diversity relatively is unaltered, some of the threatened species populations are recovering, human visitation is controlled and managed, scientific research continues, feral animals are eradicated and there are no future introductions, and there is a full awareness and appreciation of MI's values internationally, at all spheres of government, and with the public (PWS, 2006a). The vision statement provides the only explicit government directive for MI's future.

The key desired outcomes of the Plan are based on the vision statement and are provided in box 2.1. In addition, the Plan has specific objectives, policies and actions laid down for each theme outlined in Part B. A number of themes are analysed in chapter 4 including alien species management, quarantine management, management zoning, access to the reserve, research, tourism management and public awareness and community involvement. The management policies for these themes are therefore dealt with in greater detail below.

Box 2.1: Key desired outcomes of the MINR Management Plan 2006

- The World Heritage Values of the reserve are identified, protected, conserved, managed and where necessary, rehabilitated.
- Geoconservation values are identified, recorded, protected and interpretated
- Natural geological and geomorphological processes continue to occur without human interference
- All of the natural and historic cultural heritage values of the reserve are protected, conserved and managed
- The reserve conserves biodiversity and negative conservation trends for threatened species are being reversed
- Recovery plans for threatened species have been successfully implemented
- A program(s) to eradicate rabbits, rats and mice from the reserve has been planned, funded, implemented and successfully concluded
- Quarantine and environmental protection measures are effective and thoroughly applied, and have successfully prevented further major introductions of alien species
- Ecological processes and systems direct or indirect human disturbance, particularly due to introductions of alien vertebrate species and some invertebrate species, are recovering their natural integrity
- Human impacts resulting from tourism, scientific and management programs are controlled and do not threaten the natural or historic values of the reserve
- Air, land and waters of the reserve are relatively unpolluted by human activities
- The historic heritage of the reserve is identified, recorded, protected and interpretated

Source: PWS, 2006a, 52-53.

2.4.1 Alien Species Management

Managing alien species is paramount to maintaining the integrity of native flora and fauna, ecosystem processes and landscape values. MI is suffering from a legacy of poor environmental management that resulted in the introduction and establishment of feral cats, wekas, European rabbits, ship rats and house mice. Feral cats and wekas have been eradicated with last recorded sightings in June 2000 and December 1988

respectively (Copson & Whinam, 2001). Conversely, the rabbit population has increased dramatically since 1999, impacting upon vegetation and wildlife (PWS & BCB, 2007).

The risk of plant species and invertebrates being introduced is high as a result of human visitation. Whinam *et al.* (2003) collected a number of plant propagules from cargo, visitor baggage and equipment enroute to, and on, MI. Meanwhile, between 1985 and 2000 Potter (2006) observed or noted from reports of AAP visits to the Antarctic and sub-Antarctic, the presence of Birch and Radiata Pine, potted plants, peat moss, seeds and seed pods, spiders, earwigs, moths, weevils, snails, slugs, bees, wasps, mites, crickets, cockroaches, ants, worms, frogs, beetles, ladybirds, and even two cane toads.

The eradication of rabbits, rats and mice is the high priority for management and this is reflected in the vision statement and key desired outcomes of the Plan (PWS, 2006a). Additional policies call for the continuation of the program to reduce the rabbit population by spreading myxomatosis until supplies run out or eradication becomes possible, an assessment of the benefits and costs associated with eradication programs, and the implementation of monitoring programs to assess the impact of existing and new alien animal species (PWS, 2006a).

Alien plant species are not considered a priority at this time. Whilst the prescribed actions of the Plan indicate that vigilant monitoring should continue, particularly at the main landing sites (PWS, 2006a), there are no pressing issues with regard to alien plant management.

2.4.2 Quarantine Management

Minimising the risk of accidental introduction of alien species is the primary aim of quarantine. Human visitation and the warming effect of global climate change provide alien species with a mode of transport and more favourable conditions for survival once there (PWS, 2006a). MI has been declared a 'Control Area' under the *Plant Quarantine Act 1997* (TAS) to mitigate this risk. Quarantine is managed through inter and intra government collaboration. The authority for quarantine rests with Quarantine Tasmania,

an agency of DPIW which has been contracted by Australian Quarantine and Inspection Service (AQIS) to ensure federal quarantine measures are implemented and enforced. This is largely achieved through self-regulation of the organisations that directly use MI.

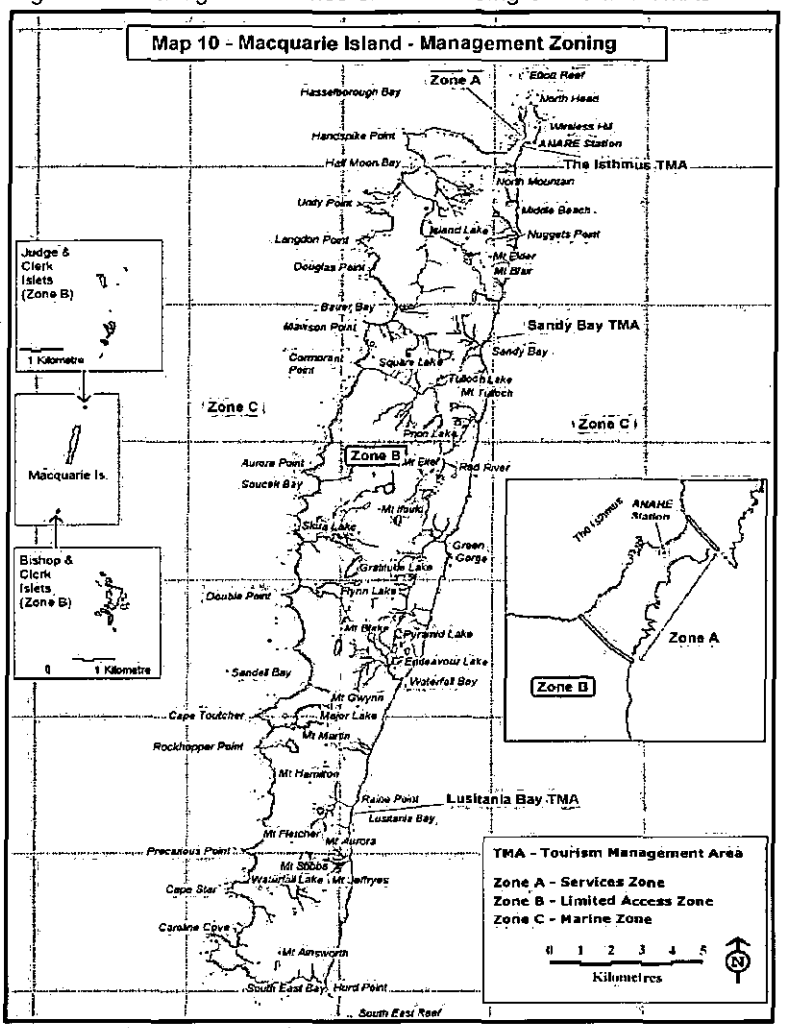
AAD in particular has an obligation to ensure quarantine measures are carried out effectively as the primary transportation provider. AAD has initiated a range of initiatives and procedures with respect to the cargo, stores and personnel prior to departure, enroute and on arrival (Potter, 2006). Tourists operators also ensure their passengers go through the quarantine process before they land, including boot wash down, vacuuming of pockets and Velcro fastening and a bag check for food. Although strict quarantine measures are in place, the greatest threat to this isolated and remote island arises from unauthorised landings and/or visits by fishing vessels, private yachts and emergency landings.

The quarantine policies outlined in the Plan are extensive and designed to mitigate any risk of an introduction of alien species from any potential source. In summary they include fumigation and cleaning of all belongings, clothing and cargo; restrictions on food products to MI and within specific zones; restrictions on wharf infrastructure, ballast discharge and anchorage; and the requirement that all vessels are certified rodent free (PWS, 2006a).

2.4.3 Management Zoning

Human activities have evolved considerably since MI's discovery, from the extensive resource exploitation of the sealing and oil era to the scientific research and tourism that dominates today. Managing human use is necessary to ensure values are protected. Although the overarching vision and management objectives of the Plan apply to the entire reserve, the conditions of MI and requirements for human use differ considerably in different parts of the reserve and therefore require a different management approach (PWS, 2006a). The Plan outlines for the provision of three management zones, special management areas (SMAs) and tourism management areas (TMAs), shown in figure 2.1.

Figure 2.1: Management zones on MI including SMAs and TMAs



Source: PWS, 2006a, Map 10.

Zone A, *Services Zone*, has been declared on the Isthmus to concentrate human activity in the reserve to this one area and to provide an accessible, safe and robust site for human use. Zone A encompasses the main living and working areas, and logistical support facilities. Interestingly, AAD has developed station limits, whereby personnel must obtain permission from the Station Leader (SL) to go beyond these limits; however, these limits do not match the boundaries of Zone A (PWS, 2006a). The Isthmus is also home to a high influx of wildlife during the summer months as they come ashore to breed and moult.

Zone B, *Limited Access Zone*, includes the remainder of the terrestrial area of MI to the low water mark. It minimises the impact of human activities, provides for approved scientific research and monitoring and management programs, and allows the use of facilities for rest and recreation of personnel when available (PWS, 2006a). Human use is therefore limited to the existing infrastructure and facilities of field huts, tracks, and enclosures, markers and sites for scientific experiments, data collection and management programs.

Zone C, *Marine Zone*, encompasses the marine component of the MINR to the State boundary of 3nm. To protect the natural and historical values of near shore marine environment commercial fishing is prohibited, and scientific research and commercial tourism restricted. The objectives, policies and actions of Zone C are very similar to the Highly Protected Zone of the adjacent MIMP, thus providing some degree of complementary management between the marine protected areas (PWS, 2006a).

Special Management Areas are designated within any other zone in the reserve to further protect the heritage values as deemed necessary by the management authority upon qualified scientific and heritage management advice. There are three types of SMAs: seasonal with location fixed, seasonal with location variable, and permanent. SMAs are reviewed annually and the Plan highlights the importance of liaising with scientific personnel who might be affected by the imposition of an SMA (PWS, 2006a).

Tourism Management Areas have been specifically designated to prevent uncontrolled recreational tourism. As a nature reserve, commercial tourism is limited to educational visitation only. There are three TMAs on MI: the Isthmus, Sandy Bay and offshore at Lusitania Bay. Each TMA provides the opportunity to view wildlife, vegetation, geological formations, natural landscapes and historic sites. Proposals for tourist access outside the TMAs have not been successful due to safety concerns, infrastructure costs and disturbance to wildlife (PWS, 2006a).

2.4.4 Access to the Reserve

The only way to access MI is by sea and the inclusion of state waters to 3nm into the reserve has further controlled the general right to access (PWS, 2006a). All vessels intending to anchor inshore must first obtain authorisation and a permit for every passenger who goes ashore. This includes all AAD and tourist vessels, and other visiting vessels. In an emergency, vessels are granted access under the International Law of the Sea. Vessels may also request access at short notice on speculation or to seek shelter from bad weather. In such cases, access may be granted if all necessary customs, quarantine and immigration clearances are met, and visitors are briefed on minimal impact behaviour.

As there are no landing facilities at MI the only way ashore is via zodiac style inflatable boats or by helicopter. The main landing sites of zodiacs are at Landing Beach at the Isthmus or Sandy Bay for tourist visits. Helicopter use is limited to resupply operations, management and research purposes, and must comply with strict flight restrictions (PWS, 2006a). AAD resupply generally takes place in April and September when wildlife is at a minimum and helicopter use creates less of a disturbance. During the changeover and resupply period, up to 80 people are able to stay overnight.

2.4.5 Research

MI has generated significant interest for its research possibilities from individuals and institutions from around the world. Hobart provides an operational gateway to the south and hosts a high concentration of personnel and organisations associated with polar science, research and education (Antarctic Tasmania, 2004). It is the main human activity on MI and therefore requires a clear approach to management. Any research activity requires a scientific permit in addition to authority for access. Research applications are assessed by Macquarie Island Research Advisory Group (MIRAG), an advisory group with representatives from PWS, BCB, and AAD, in addition to the Antarctic Research Assessment Committee and Antarctic Animal Ethics Committee if required.

The Plan outlines the research priorities that MIRAG assess applications against, which includes long term research and monitoring programs for threatened species, climate change and the impact of alien species and human activities; research into the unique geological and geomorphological values; and research into coastal waters to detect ecosystem changes *(PWS, 2006a).*

The Plan also details an extensive list of policies relating to scientific research befitting of its status as the most prolific human activity. They are concerned with access, permits conditions, reporting periods, impact on heritage values, relevancy and appropriateness and the remediation of research sites (PWS, 2006a). Research is encouraged so long as the research objectives are justified, have minimal impact on wildlife and the landscape, and contribute to global scientific understanding.

AAD has provided the majority of logistical support and coordination for research and management programs to date. However it has signalled that the allocation of resources will shift in response to the national research priorities announced in 2002 (Stoddart; Governor's Forum No.4, 2003). Greater consideration will need to be given towards the logistical and operational support of ongoing and new research projects in the future. This will be discussed in more detail further in chapter 3.

2.4.6 Tourism Management

Commercial tourism has become an important part of the Antarctic tourist experience in the eastern polar region as a break in the long and rough voyage from Australia and New Zealand to the Antarctic. It is a relatively new activity, commencing in 1987 with tourist vessels visiting every year since 1992 (PWS, 2006a). The only tourism product available for MI is expedition style shipborne tourism and once there, passengers must be ferried ashore in inflatable zodiac boats. As it is difficult to get on the Island, authorities are in a unique position where they can restrict access, determine the conditions that access is granted and influence the behaviour of visitors once there.

Unlike national parks in Tasmania, nature reserves are not designated for tourism and recreational purposes (RPDC, 2005). Commercial tourism is sanctioned on MI for

education purposes only in accordance with the conditions of Tasmanian nature reserves. Educational tourism is specifically referred to in the Plan as the best way to promote an appreciation, understanding and awareness of its heritage values and engender support for conservation measures, whilst having a minimal impact on the environment (PWS, 2006a). Although the Plan does not actually provide a precise definition of what constitutes an educational tourist, the nature of shipborne tourism in the Antarctic, with lectures and high level interpretation, would result in the majority of visitors falling into this category.

Tourism has always been tightly controlled under the two management plans and thus far there has been no evidence of sustained environmental impact from commercial visitation. However, greater human access increases the risk of introduced species, disturbance to wildlife and the environment in general, and to research programs and station life in particular (PWS, 2006a). The current Plan determines tourism opportunities through TMA zones and the delivery of infrastructure and facilities. The allocation of access rights, activities, permits conditions and visitor behaviour are laid down in the Tourist Visit Guidelines. These guidelines are an appendix to the Plan and sit outside of the statutory requirements. As a result they can be changed as deemed necessary in an annual review.

The guidelines set a maximum annual quota of 750 visitors, with vessels carrying less that 200 passengers allowed to land passengers ashore. Permits for each visitor are issued to tour operators and in acquiring one, an operator must meet the strict criteria set out in the guidelines. The 2006-07 criteria were based on the capacity of the operator to deliver desirable outcomes that would benefit Tasmania and MI, a submission of an environmental impact statement, ability to self-regulate to a high level, clear communication of heritage values, flexible itineraries, accreditation and past performance (PWS, 2006b).

Tour operators must ensure activities and visitor behaviour do not noticeably impact on wildlife and the environment, interrupt research activities or station life, and meet safety requirements. When on MI, tourism is no longer self regulatory as PWS dictate visiting hours, restrict visitor numbers on site, accompany visitors onsite at all times and ensure minimal impact behaviour is observed (PWS, 2006b). In addition, PWS imposes a user

fee on tourism of $150 per person which is intended for the provision of staff, infrastructure, promotion, research and administration costs.

2.4.7 Public Awareness and Community Involvement

Engaging the public and involving communities can greatly assist in generating support for conservation measures in a protected area (Worboys et al., 2005). MI is recognised for the multitude of unique and interesting values and is a place of interest to actors, institutions and the public in general. The Plan supports rasing public awareness and support through education, films, media coverage, the internet and books as a means of promoting its environment, heritage values, history and research (PWS, 2006a).

To raise awareness on the reserve, training is given to all personnel about minimal environmental impact, and commercial visitors receive information packs, utilise on site infrastructure including boardwalks, viewing platforms and interpretative signs, and have the opportunity to listen to lectures as part of their cruise package. Raising awareness is about the effective transfer of information to anyone visiting MI about its values, quarantine, minimal impact and appropriate behaviour around wildlife, research, and conservation management (PWS, 2006a).

For many people the opportunity to visit may never arise, due to its remote and isolated location and the high costs associated with getting there. Thus raising public awareness and involving the community is essential off MI as well. The Macquarie Island House at the Tasmanian Botanical Gardens, Southern Polar exhibition at the Tasmanian Museum and Art Gallery, AAD display area, Midwinter Festival and Governor's Forums have all assisted in raising awareness and engendering an appreciation within the public.

2.4.8 Consultation

The management of MI is of interest to a range of actors and institutions including government agencies, industry, research institutions, environmental organisations, and concerned individuals. As with any policy framework in a democratic government,

providing a means of communicating with interested parties about management practices is important to attain consensus and ensure ongoing support. Without constructive consultation, the management regime would struggle to reconcile competing interests, ensure management decisions would be objective and inclusive, and standardise management practices (Antarctic Tasmania, 2005).

The 1991 Plan did not provide a vehicle for consultation and PWS was the sole agency making and implementing management decisions and practices with no obligation to consult with other stakeholders. Open public discussions have been limited to the Governor's forums held in 1996, 1999, 2000 and 2003. The Chair, former Governor Sir Guy Green (Governor's forum No.4, 2003, 2), commented that each of the forums had succeeded in bringing together people from all the major public and private sectors that had a connection with the southern polar region to, ' ... discuss areas of Antarctic endeavour which our enquiries have suggested are of current, special interest'.

In 2006 the International Forum on the Sub-Antarctic was held in Hobart, again with Sir Guy Green as Chair and Honorary Antarctic Ambassador for Tasmania. This forum bought together delegates from research institutions and government agencies from a number of countries with a stake in the sub-Antarctic to discuss the physical and living environment, human use, conservation and management frameworks and future opportunities for the sub-Antarctic (Boyer & Haywood, 2006).

The MINR Plan outlines two options for encouraging effective consultation. They are to establish a Macquarie Island World Heritage Area Consultative Committee (MIWHACC) as a vehicle for intergovernmental liaison regarding sources of funding, research priorities and programs, and strategic management and planning; or an open forum, following the model of Governor's forums', to discuss reserve priorities, research results, promote public understanding and support of the reserve with the aim of encouraging communication, cooperation and understanding (PWS, 2006a, 128).

The policies outlined in the Plan provide direction for implementing one of the vehicles mentioned above by encouraging consultation to determine the most appropriate forum for consultation and the terms by which it should be established, engaging with key stakeholders to promote support for consultation, and engaging relevant people,

communities and organisations whose interests may be affected by management decisions and practices (PWS, 2006a)

2.5 Local context

MI is part of the Huon Valley municipal area and there have been several inferences in the literature that the local government planning scheme would apply to MI (Kriwoken *et al.*, 2006; Antarctic Tasmania, 2005). This belief centred on an amendment to the *Land Use Planning and Approvals Act 1993* in 2001 that would apply the Act to all Tasmanian Reserves (DPIWE, 2004). As a result developments and activities in a reserve would be subject to local government planning schemes. It is an issue that was raised by AAD in 2005 during public comment on the Plan at draft stage and on further investigation it was found that as MI was specifically excluded from the *Esperance Planning Scheme 1998,* LUPAA did not apply (RPDC, 2005).

2.6 Summary

MI has a complex management regime which embodies the realities of a protected area managed under Australia's federal system. This chapter outlined the international, national and state aspects of the regime and illustrated how various regulatory requirements at different levels of government are incorporated into one framework. The most relevant government document to MI, the MINR Plan, was discussed in detail to give an indication of how it prescribes management policies and actions to meet its key desired objectives and work towards achieving its vision. Specifically, the policies associated with the conservation of MI's landscape values and management of human use were examined as they form the basis on which the stakeholder analysis is conducted.

3. Macquarie Island: stakeholders

3.1 Introduction

MI is a protected area highly prized for its abundance of wildlife, unique geological structure, research opportunities and historical significance to Tasmania and Australia. The management decisions and practices that regulate human activities are therefore of interest to a wide range of actors and institutions. They are the stakeholders of MI; the government agencies and departments, non-government organisations and individuals who affect, or are affected by, the management regime. These stakeholders represent a diverse range of interests including conservation management, scientific research, education, biosecurity, economic development, tourism, local business opportunities, and politics.

The stakeholders were identified primarily from the literature and also in discussions with stakeholders who had already been identified. Chapter 4 provides a detailed account of how to identify stakeholders and the difficulties associated with this. The stakeholders that will be discussed in this section have a claim over MI or some aspect of it, and are able to exert influence over, or are influenced by, its management regime.

3.2 State Government departments and agencies

3.2.1 Parks and Wildlife Service

PWS has statutory authority over MI and is therefore assigned the responsibility of management. This responsibility centers on ensuring the MINR Plan is implemented and then evaluating how successful this process is and if the management objectives of the Plan have been met (PWS, 2006a). A key part of PWS responsibility is the day to day management of MI, which is undertaken by one or two rangers who live on site for a fixed period of time, and a short term ranger to assist in the summer months with commercial visits.

As a government agency, PWS is subject to annual budgetary processes. For the financial year of 2005-06 it was allocated a total budget of $33 million from all revenue including government appropriations, user fees, fines, and sale of assets (DTAE, 2006). Its costs for the same year amounted to $38 million, signalling budget deficiencies. Approximately 30% of Tasmania's landmass, coastal areas and inshore waters are managed by PWS. This tenure is increasing, yet paradoxically, government appropriations have decreased over an extended period of time, severely limiting the capacity of PWS to carry out its core business (Duncan, pers.com. 2006).

A user fees systems has been established which charges each visitor $150 to go ashore. The revenue collected is not consolidated back into PWS budget like other protected areas, rather its purpose is to provide infrastructure, promotional items such as an information booklet and pamphlets, administration, and a summer ranger (PWS, 2006b). With approved tourist visits averaging 484 from 1995-2005, an average annual revenue of $72 600[1] is directed back into management. The balance is allocated through the annual budget of PWS.

A pressing issue for PWS on MI is the eradication of rabbits and rodents. Rabbits in particular have had a significant impact as their numbers have increased ten fold since the 1980s (WWF, n.d.). Rabbits and rodents graze on the vegetation, destabilising the soil and hillsides, threatening burrows and nesting sites, and degrading unique and fragile habitats. It is expected that up to 24 bird species will benefit from pest eradication including 12 bird species listed as threatened under Tasmanian and/or Commonwealth legislation (PWS & BCB, 2007).

An eradication plan has been developed by PWS and BCB with joint funding from the State and Commonwealth Government. It was released in 2006, thus fulfilling action reference 5.9 of the MINR implementation schedule and the timeframe set by the NRM Southern Regional Committee. According the Duncan (pers.com, 2006) eradicating feral pests on MI is the highest priority for protected area management in the State. However finance to implement the program has not been finalised. Rather, an

[1] Data collated from tourist figures provided by Copson; cited in Kriwoken *et al.*, 2006, 197 and the Tourist Visit Guidelines, section 5.2, PWS, 2006b, 6. The fee of $150 has been in place since at least 2003 on release of the draft MINR Plan.

interesting debate has emerged between the State and Commonwealth about who should fund the program, which will be discussed in more detail further on.

3.2.2 National Parks and Wildlife Advisory Council

The National Parks and Wildlife Advisory Council (NPWAC) is an independent statutory advisory body that provides an overview of Tasmania's reserve system and strategic advice to the Minister of the Department of Tourism, Arts and Environment (DTAE). It was established in 1971 and its functions are set out in the *National Parks and Reserves Management (NPRM) Act 2002*. The role of NPWAC is indirectly associated with the management of MI. It advises the Minister on the administration of the Act and policy issues of State significance that relate to the Act (PWS, 2007). It therefore influences the interpretation of the State's obligations regarding Tasmania reserves, including MI. In addition NPWAC would have reviewed the MINR Plan.

3.2.3 Biodiversity Conservation Branch

BCB is part of the division of Resource Management and Conservation under DPIW. It was previously a part of PWS. When it was reassigned to DPIW it divided research and conservation planning, and the day to day management of Tasmania's reserve system between two State government departments. The draft MINR Plan was produced during this tumultuous period which may explain in part why it took so long to go through the assessment and review process of the Resource Planning and Development Commission (RPDC).

BCB is directly involved with management and conservation practices on MI primarily through the work of the Threatened Species Section which is responsible for listing threatened species, and developing and implementing recovery plans in accordance with the Threatened Species Strategy and NRM Framework (DPIW, 2007). It was the primary contributor to the eradication plan and plays a pivotal role in the ongoing eradication of rabbits and rodents on MI. Furthermore, BCB holds a place at MIRAG and thus has some influence over the scientific research that is undertaken on MI.

3.2.4 Quarantine Tasmania

Quarantine Tasmania is also an agency operating in DPIW. It provides barrier controls to all points of entry into the State and import clearance for commercial cargo entering directly or via trans-national arrangements. In addition Quarantine Tasmania has been contracted by the AQIS to carryout inspections and surveillance of overseas marine vessels to ensure compliance with *Quarantine Act 1908* (Cth) and international health regulations. This program includes monitoring for rodents and vermin, ballast water and garbage disposal (DPIW, 2007b).

MI presents a significant challenge to Quarantine Tasmania due to its remote location and isolation from mainland Tasmania and the fact that every ship must travel through international waters to reach MI and return to Hobart. The MINR is a control area to prevent the introduction of known pests and diseases and as such movements and certain activities may be restricted or prohibited if they pose a risk to biosecurity (Parliament of Tasmania, 1997).

Quarantine Tasmania has been delegated the authority of AQIS to ensure quarantine management of import and export requirements are fulfilled in accordance with the *Quarantine Act 1908* (Cth), *Animal Health Act 1995* (TAS) and *Plant Quarantine Act 1997* (TAS) (PWS, 2006a). Quarantine Tasmania does not maintain a presence on MI rather its responsibilities for preserving the control area are further delegated to PWS and AAD personnel. In addition, the quarantine requirements for commercial tourists are carried out by tour operators as they self-regulate in this respect.

3.2.5 Antarctic Tasmania

Antarctic Tasmania is an agency under DED. It is tasked with promoting Tasmania as a center for Antarctic, sub-Antarctic and Southern Ocean activities and encouraging national and international communities to use Tasmania as a gateway (Antarctic Tasmania, 2004b). Antarctic Tasmania coordinates local companies who supply goods and services to the Antarctic sector and facilitates business arrangements between government agencies, research and commercial organisations.

Although Antarctic Tasmania does not have a statutory responsibility over MI, it did produce *Tasmania's Antarctic, sub-Antarctic and Southern Ocean Policy*. Its role is to improve the economic benefits of Tasmania's Antarctic community to the state and MI has an important, if small, role in this. Antarctic Tasmania has also sought a role as a facilitator between other stakeholders with often divergent interests. It produced a discussion paper in 2005 that called for the creation of a Macquarie Island Management Authority, a co-management body that would provide an objective, coordinated and inclusive approach towards tackling significant and contentious issues (Antarctic Tasmania, 2005).

3.2.6 Tasmanian Museum and Art Gallery (TMAG), Tasmanian Royal Botanical Gardens (TRBG)

TMAG and TRBG both contribute to raising awareness with the wider community of MI's natural and historical values, status as a protected area, and the major threats and issues that it faces. TMAG has a permanent interactive exhibition 'Islands to Ice: the Great Southern Ocean and Antarctica' which features a section on MI, in addition to an education kit downloadable for schools (TMAG, 2006). TRBG has a unique display of sub-Antarctic plants collected from MI in a climatically-controlled environment. The display also features the sounds of MI which features the various seasons, species and ever present wind and rain (TRBG, 2006).

3.3 Commonwealth government departments and agencies

3.3.1 Australian Antarctic Program, Australian Antarctic Division

AAP incorporates multiple government agencies which have a vested interest in scientific research, policy, operations and management of the southern polar region. Membership includes AAD, Bureau of Meteorology (BoM), Geoscience Australia, Ionospheric Prediction Service, Australian Survey and Land Information Group, Commonwealth Science and Industrial Research Organisation (CSIRO), and research

institutions such as universities and the Cooperative Research Center for Antarctic and Southern Ocean Ecosystems (JSCNCET, 2005). The Australian Government sets the directives for AAP and it is managed by AAD.

As one of two Australian sub-Antarctic islands, and the only one with permanent facilities, MI has played a significant role in AAP to date. However, this role is currently under review and may change in the future. In 2002 the Antarctic Science Advisory Committee (ASAC) commissioned a far-reaching evaluation of AAP. It recommended that it should sharpen its strategic focus and concentrate on three multidisciplinary strategic themes: Ices, ocean, atmosphere and climate; Southern Ocean ecosystems, and; adaptation to environmental change, in addition to a major program on the impacts of human activities in Antarctica (Stoddart; Governor's Forums No.4, 2003).

AAP is managed by AAD as this agency has the greatest capacity to coordinate and plan research and the infrastructure in place to follow through and support specific projects. However, a review into the adequacy of funding for AAP found that before the 2005-06 Federal Budget no new money had been invested in AAD for many years and there was little or no money for new research projects or additional logistics (JSCNCET, 2005). With a new strategic focus, AAD was therefore faced with the prospect of re-allocating its resources.

Chief Scientist of AAP, Professor Stoddart (Governor's Forum No.4, 2003) indicated that Heard Island would be a key locality for research that supported the new strategic focus, namely research into CCAMLR related Southern Ocean ecosystem change and biological adaptation to environmental change. Thus the future pointed towards a greater use of Heard Island and a decreased need for MI. It was also becoming increasingly apparent that AAD had reached its maximum capacity in terms of its resources and ability to meet all the goals set by ASAC, both old and new (JSCNCET, 2005)

The Federal Budget for 2005-06 appropriated $99.4 million to AAD an increase of 9.36% from the year before with additional funds to be divided between two outputs: Antarctic policy and Antarctic Science (JSCNCET, 2005). With limited logistical resources to support AAP in all its endeavours, shifting national priorities and the development of the

Airlink between Hobart and Casey, the importance and relevancy of research on MI at the national level and the need for an AAD presence is diminishing.

This has significant ramifications for other agencies as they rely on AAD resources to pursue their activities without incurring the financial outlay. At the Federal level BoM have indicated an ongoing requirement for a base for their operations (Stoddart; Governor's Forum No.4, 2003). Furthermore, PWS and BCB have been utilising AAD resources including transport and the station, at no cost to the State. So when AAD announced publicly that it intended to either withdraw or scale back their operations on MI, the State Government condemned the move, accusing the Commonwealth of shirking its responsibilities to ensure conservation management would continue (ABC Online, 11 January 2006).

AAD indicated initially that they would stay until at least April 2007 and would enter into discussions with BoM about their intentions to stay and how they would be supported (ABC Online, 10 January 2006). Since this initial announcement AAD has yet to confirm its future intentions for MI. AAD resupply voyages to MI have reduced considerably since the 1999-00 season and for the past four years have been limited to one per year (AAD, n.d.). The latest resupply in April 2007 witnessed another station changeover thus signalling a continued presence on MI for at least another year.

At present AAD is finalising a report on the Futures Project which will be presented to the Federal Minister for the Environment on completion. The Futures Project provides a long term plan by defining how Australia will engage with the Antarctic region in the period up to and beyond 2020. Although the report does refer to MI, it does so in a manner that carries with it the expectation that the position of AAD regarding MI will be resolved through a separate process before the Futures Report is released to the public (Jackson, pers.com., 2007).

3.3.2 Bureau of Meteorology

BoM observation program on MI is one of the foundations on which ANARE was originally conceived and has been a permanent feature of the research station since it was established in 1948. The program observes and records weather parameters through a series of automatic weather sensors, although a human presence is still required as manual instruments are utilised to ground truth the automatic sensors (BoM, 2007). In addition, BoM manages an upper air program which measures temperature, humidity, and wind speed and direction in the upper atmosphere. BoM has a vested interest in maintaining its presence on MI to ensure the data stream of these programs over time is not lost or disrupted.

3.3.3 Department of Environment and Water Resources

DEWR is highly relevant to MI. It focuses on matters of national environment significance by advising on policy issues, administering federal environment and heritage laws, managing environmental and heritage programs and representing the Australian Government in international environmental agreements (DEWR, 2007b). One of the key functions of DEWR is to administer the *EPBC Act 1999* (Cth), the objective of which is to protect the environment with a particular focus on the aspects of the environment that are of national significance (Kriwoken *et al.*, 2006).

With regard to MI, DEWR has an obligation to manage MIMP, and protect the values for which MI is internationally recognised, specifically World Heritage and Biosphere reserve values. DEWR has assigned IUCN Protected Area Management Category 1a to MI and is obligated to ensure it is managed in accordance with this designation (PWS, 2006a). Finally, DEWR has a responsibility to implement the principles, targets and actions of international environmental conventions into national legislation as part of the ratification process for Australia. The *EBPC Act 1999* is the principle piece of legislation that compels action in the State's legislative framework to achieve the above.

DEWR is the parent department to AAD and BoM and therefore has a great deal of influence in the strategic priorities of the AAP. It also manages NHT and the NRM process at the national level. NHT has been a major contributor to MI for threatened species recovery plans and the threat abatement plans for feral animals, providing funds

of $1.03 million towards the eradication of feral cats between 1997 and 2001 (NHT, 2001). Furthermore, $2.2 million of NHT funds were allocated to Tasmania's three NRM Committees in 2003 to assist them in developing NRM regional strategies (Kemp *et al.*, 2003).

3.4 Parliamentarians and politicians

The question of who should fund the eradication program for rabbits and rodents on MI has become political issue. The eradication plan was provided to former State Environment Minister, Judy Jackson, in late 2005 however it was not completed until late 2006 (Parliament of Tasmania, 2007). It was released to the public in March 2007 without a clear mandate on State and Commonwealth funding commitments. The political haggling has delayed the start of the operational stages of the program, thus placing MI's wildlife and landscape at risk of further degradation.

In December 2006 the Commonwealth agreed to pay half the original estimated cost of $16 million if the State matched that amount (ABC Online, 7 March 2007). However, State Environment Minister, Paula Wriedt, indicated the Commonwealth should pay the entire cost, as MI is a WHA and therefore a federal responsibility. Although she openly admitted the Tasmanian Cabinet had not deliberated the Commonwealth's offer (Paine, 2007). The initial offer was considered by Cabinet in mid-March and rejected.

At this time the estimated costs of the program blew out to $24 million due to the delay and a range of other factors including higher fuel costs and the requirement for an additional helicopter. Malcolm Turnbull indicated that the offer to pay half still stood regardless of the revised estimate (ABC Online, 17 March 2007). Yet, the Tasmanian Government steadfastly refused to enter into such an arrangement, stating it would not contribute any state funds towards the program (WWF, 26 March 2007).

On the 29 March 2007 a Federal Senate motion put forward by Senator Bob Brown was passed 37-21 condemning Paula Wriedt for her failure to act on the environmental crisis on MI and called on the State Government to accept its responsibilities by immediately matching the Commonwealth's offer to pay half the cost of the program (Brown, 2007).

The Tasmanian Government was unmoved and the issue remained unresolved when AAD resupply vessel departed Hobart for MI (WWF, 4 April 2007).

The politicisation of the battle between the State and Commonwealth over funding arrangements for the eradication program bought the issue to the forefront of the public's consciousness. It has also engendered public debate about the boundaries of State and Commonwealth responsibility with regard to WHAs, which may have ramifications for protected area management that go beyond MI and Tasmania. Until a State/Commonwealth funding package is agreed upon the program cannot proceed and the issue surrounding fiscal responsibility for WHAs will remain unresolved.

3.5 Research Institutions and academia

MI provides a myriad of research opportunities that range from the natural and physical sciences to humanities. Research is the main human activity on MI and the basis for AAD station, it scientists and support staff. Scientific endeavours have a long history on MI and have formed part of the historical landscape. Research institutions play an important role in giving researchers and students the opportunity to gain access to MI by providing resources, finance, contacts and legitimacy in their work. Research institutions include universities, education providers, research centres, government agencies, and interested and informed academics.

3.5.1 University of Tasmania

Tasmania is the most southern state in Australia and the closest in proximity to the southern polar region. As the only university in Tasmania, UTAS has found itself in a unique position where it can promote its Antarctic connections and have a leading role in research and tertiary studies in this area. As a result UTAS is home to more that 60 Antarctic researchers across a broad range of fields and it attracts students from interstate and around the world interested in studying the south (McMinn; Governor's Forum No.4, 2003). The key institution within UTAS that focuses on the southern polar

region is Institute of Antarctic and Southern Ocean Studies (IASOS), although students carry out their studies in the more traditional faculties as well.

As a small university, UTAS has made no secret of its desire to attract greater numbers of students (UTAS, 2004) and as the population base in Tasmania is relatively static, a significant increase would need to be sourced from elsewhere either interstate or overseas. UTAS would therefore need to differentiate itself in the tertiary education market and IASOS provides an excellent base to achieve this. The ratio of local to interstate and overseas students in IASOS in 2003 was 1:4 (McMinn, Governor's Forum No.4, 2003) and this trend is likely to continue, as IASOS provides unique learning experiences not available at other Australian universities.

To further add to this unique experience, UTAS has put forward a proposal to establish a small field camp on MI where postgraduate students would have the opportunity to partake in a 4 week fieldtrip as part of their coursework. The natural values of MI would offer access to areas of study not available elsewhere (McMinn, 2005) and if the proposal went ahead, a small value adding educational product would become available that would further differentiate UTAS from its competition interstate and abroad. The proposal is in development and a number of issues need to be addressed for it to progress further such as access, logistics and support, infrastructure, and compliance with the MINR Plan.

3.5.2 International Antarctic Institute

The International Antarctic Institute (IAI) is an amalgamation of universities from around the world with an interest in research and providing education opportunities for students that center on the southern polar region. IAI came into being in 2006 with a membership of 18 universities from 12 countries (IAI, 2007). The purpose of IAI is to establish an international, multidisciplinary, multi-campus educational structure based on cross credit study programs, joint curricula and cross accreditation, giving students the flexibility to study cross institutionally or on exchange with the support of their home institution (IAI, 2004).

IAI has a stake in MI as it one of its key partners, UTAS, has encouraged ongoing research into MI and continues to pursue the concept of a field camp. Students studying with IAI would have access to UTAS courses and educational opportunities and facilities, including the field camp if it were to go ahead. Moreover, IAI acts as a conduit for students, information and knowledge between its partners and associates and therefore provides a complementary approach to study within a particular field. As a result, MI has access to a bigger, diverse and dispersed audience, enhancing its profile on the international stage.

3.5.3 Academics

Academics also have a stake in MI. They are individuals generally found within research institutions but also government agencies and consultancies, who are educated, knowledgeable, informed and have a keen interest in MI and its values, or an interest in a field that is relevant to MI, for example the impact of biological invasions or conservation frameworks for sub-Antarctic international waters. Academics play a large role in research both on and off MI and their contributions to the literature add to our understanding of the processes and issues that relate directly to MI and to the southern polar region in general.

3.6 Private sector

3.6.1 Tasmanian Polar Network

Tasmania has strong geographical and historical links to the southern polar region and has promoted these links to develop into a successful gateway. Hobart is the largest center for education and research in Antarctic and Southern Ocean studies in Australia and is home to the vast majority of institutions who focus southward. Thus there are opportunities for private industry to service the demand for logistics in the Antarctic sector. The Tasmanian Polar Network (TPN) is an organisation that provides access to the breadth of Antarctic expertise in Tasmania, and the supply and support network that delivers cold region goods, services and expertise (TPN, n.d.)

TPN has its origins as an advisory committee and has maintained its collaborative approach that incorporates the public sector and private enterprise. It was established in 1993 and currently has a membership of 53, including industries such as manufacturing, engineering, logistics, shipping and clothing, State and Commonwealth agencies, and research institutions. Its goal is to strengthen the financial ties of the Antarctic sector in Tasmania's economy (TPN, 2002). TPN holds quarterly general meetings, giving its members the opportunity to network within the organisation and providing a forum for regular consultation.

3.6.2 Tour operators and tourists

The global enterprise of tourism has a small but undeniable stake in MI. Tourist visits started as early as 1882 (Headland, 1994) but remained sporadic throughout the 1900s. Commercial tourism began in 1987 and tourist vessels have visited every year from 1992 (PWS, 2006a). MI is significant in the Australian and New Zealand Antarctic tourist experience as a stop over point on longer voyages to the Ross Sea Region. Attractions include the abundance of unique wildlife, natural beauty, remote oceanic setting, historic sites and the opportunity to visit the research station (Kriwoken *et al.*, 2006).

Tourism is, however, limited by distance, access, season, price and time, and it is further restricted by regulatory controls. The tourism product is limited to shipborne tourism and passengers are ferried ashore in inflatable zodiac boats. Thus the inclement weather and rough seas often prevent landings (Kriwoken *et al.*, 2006). All of these factors have contributed to relatively low visitation levels. Table 3.1 provides in detail the number of ship visits and tourist landings to MI including the percentage of tourists that have managed to land ashore.

Table 3.1: ship visits and tourist landings for Macquarie Island: 1987-2007

Season	*Approved ship visits*	*Actual ship visits*	*Approved tourist landings*	*Actual tourist landings*	*% tourists landed*
2004 / 2005	5	5	358	303	85%
2003 / 2004	5	5	454	433	95%
2002 / 2003	4	4	352	202	57%
2001 / 2002	8	7	522	371	71%
2000 / 2001	9	7	818	556	67%
1999 / 2000	7	4	558	329	58%
1998 / 1999	6	6	458	374	81%
1997 / 1998	6	6	376	313	83%
1996 / 1997	6	6	526	490	93%
1995 / 1996	9	8	421	351	83%
1994 / 1995	5	5	432	342	79%
1993 / 1994	4	3	N/A	128	-
1992 / 1993	4	4	N/A	416	-
1991 / 1992	0	0	N/A	0	-
1990 / 1991	4	4	N/A	559	-
1989 / 1990	0	0	N/A	0	-
1988 / 1989	0	0	N/A	0	-
1987 / 1988	1	1	N/A	18	-

Sources: Copson, cited in Kriwoken *et al.*, 2006, 195.

The vessels that regularly visit MI are either ice strengthened ships, icebreakers, or private yachts with a capacity to carry between 50-150 passengers. They are fully or partially chartered by tour operators such as Aurora Expeditions, Heritage Expeditions, Peregrine Adventures and Quark, among others. Generally the number of tour operators with MI on their itineraries is kept low over a season by the annual quota and selection process for acquiring permits.

Getting to MI is an expensive exercise. Cruises in the East Antarctic can spend up to a month at sea and prices start from around AUD$14,000 per person for a berth in a triple share cabin (Heritage Expeditions, 2007). For this passengers receive an educational experience with onboard lectures and a high level of interpretation delivered by experts across various fields of study. Visitor profiles reflect this and they are usually characterised by their affluence and willingness to pay, availability and values. They form an influential group in society, wealthy and educated, and are usually supportive of conservation management (Cessford and Dingwall, 1998).

3.7 Environmental organisations

Several non-government environmental organisations have shown interest in the management of MI over the past two decades due to the significance of its natural values and the emergence of potentially threatening processes. Although other stakeholders may refute any claim for legitimacy, environmental organisations pursue common interests and can therefore affect, or are affected by, a specific course of action. Furthermore, they can add a sense of urgency to an issue and lobby and raise public support for action that may not have occurred otherwise.

In the late 1980s the Wilderness Society entered the debate surrounding a proposed increase in tourist numbers to 1500 in the 1990-91 season. The Wilderness Society criticised PWS for allowing tourism to occur in the absence of a plan and for considering allowing such a hike in numbers without proper public consultation (Stephenson, 1991). In 2005 the Tasmanian Conservation Trust and Whale and Dolphin Conservation Society both made public representations during the RPDC review regarding amendments to the draft MINR Plan (RPDC, 2005).

During 2007 both the Tasmanian National Parks Association (TNPA) and World Wildlife Fund Australia (WWF) entered the debate regarding funding arrangements for the implementation of the eradication program. TNPA president, Chris Bell, called for Tasmanian Minister Paula Wriedt to resign over the issue (ABC Online, 16 March 2007).

WWF condemned the State Government and called for the State to cede MI to the Commonwealth if it would result in the implementation of the program (WWF, 4 April 2007). WWF also has a vested interest. It donated $100 000 towards the program in conjunction with tour operator Peregrine Adventures (WWF, 12 December 2006), illustrating the commitment of WWF and Peregrine in finding a resolution to the issue. It also demonstrates the latent power of private enterprise and how it can contribute towards conservation measures that are ultimately in its best interest.

3.8 Other stakeholders

Other stakeholders associated with MI include diverse and dispersed groups such as the Tasmanian community, the people of Australia, global society, nation states, convention secretariats and committees such as the WHC, and future generations. Human activities on MI and the management of those activities have the potential to impact on these groups, just as these groups can impact on the management regime. Whilst best effort is given to provide information regarding all stakeholders, the author does not have the capacity to delve into these stakeholders as the scope of this research significantly limits the boundaries of such an investigation.

3.9 Summary

MI has numerous stakeholders derived from its complex management regime and the opportunities for research, tourism and improved economic performance in the servicing of the Antarctic sector. Key stakeholder groups include government agencies and departments, politicians, research institutions, industry and tour operators and environmental organisations. They interrelate on a number of levels and therefore create a distinctive operational environment in which human activities associated with MI take place.

Some of these stakeholders are created by the complex management regime governing MI, whereby the regime has allocated statutory authority and therefore legitimacy to their claim. Other stakeholders are the result of business opportunities borne out of a burgeoning Antarctic sector that incorporates research, tourism and the provision of cold region goods, services and expertise. Or stakeholders simply implant themselves on the scene in response to a particular issue that may affect them in some way or that they feel strongly enough to enter into a particular debate. Whatever their mode of entry, stakeholders fulfil a role as caretaker, banker, resource user, observer and lobbyist.

The way in which stakeholders interrelate can affect management decisions and practises. Thus identifying the linkages between the management regime and stakeholders can assist in determining the relevancy and effectives of the regime in its

objectives and in achieving its outcomes, and the level of support of stakeholders for these objectives and outcomes. This chapter provides a sound foundation on which a stakeholder analysis can be formulated, carried out and the results scrutinized.

4. Stakeholder Analysis

4.1 Introduction

Stakeholders are fundamental in decision making and gaining a better understanding of the dynamics of stakeholders has become a necessity for ensuring effective and legitimate outcomes. Stakeholder Analysis (SA) has thus become a valuable tool in identifying and analysing the characteristics of stakeholders including their knowledge, interests, position, potential for and/or actual alliances, conflict, and power and influence. This chapter explores the stakeholder approach by providing an overview of its origins in management and public policy literature, determining what SA can reveal, examining the benefits and weaknesses of SA, and finally presenting a guide to successfully carrying out an analysis.

4.2 Stakeholder approach

The stakeholder approach has its origins in business management and public policy. Although the perspectives between each discipline may differ, each recognises the approach as a pragmatic way of identifying multiple claims and facilitating an understanding of an unpredictable environment that surrounds an organisation, a decision or a policy (Weiss, 2003; Wolf & Putler, 2002). Incorporating the viewpoint of stakeholders into decision making processes has thus become increasingly popular in both private enterprise and government.

A stakeholder, according to Freeman (1984, 46) is 'any group or individual who can affect or is affected by the achievement of the organisation's objectives'. Throughout the literature this definition is widely quoted and usually provides a starting point for further developing stakeholder theory. More specifically, stakeholders are actors, agents, institutions, interested parties, interests and interest groups that of are interest because their needs, wants, desires, perceptions and conceptualisations are all different, and the source of these differences is a fundamental issue in decision making (Burgoyne, 1994). Stakeholders may include future generations, the national interest and wider society (Grimble *et al.*, 1995).

Stakeholders exhibit specific characteristics that differentiate them from each other such as their core beliefs, usable resources, influence, and ability to form alliances with other stakeholders (Weible, 2006). Identifying these characteristics is essential to gain an understanding of what drives a stakeholder, what their agenda is and how influential they may be in decision making. In practice, however, this is problematic as stakeholders are by nature dynamic; their interests and thus their relationships with each other often change and their own perception and how others perceive them may differ (Simmons & Lovegrove, 2005; Elias & Cavana, 2000).

As the name suggests, a stakeholder holds a stake in something and this is what drives a stakeholder into action or non-action. According to Weiss (2003, 34) a stake is '... any interest, share, or claim that a group or individual has in the outcome of a corporation's policies, procedures, or actions towards others ... based on [a] legal, economic, social, moral, technological, ecological, political, or power basis'. A stake is tradeable, it can be gained or lost, and it can be orientated towards the past, present or future. Mitchell *et al.* (1997) argue that by defining a stake, we define who and what really counts.

As it has become apparent that stakeholders can influence decision making processes (Burgoyne, 1994), it becomes necessary to develop a better understanding of stakeholders and their stake to fully comprehend why they exist, how they operate, and the power and influence they may exert. An increasingly popular method to achieve this is SA. It identifies stakeholders, collects data about their actions, perceptions, behaviours, experiences and thoughts to produce a multi-dimensional dataset that can be analysed inductively, deductively or comparatively (Burgoyne, 1994). Thus, SA is a highly flexible application that can be utilised in any field where stakeholders are at play.

4.2.1 Origins and development

SA is a relatively new addition to stakeholder theory. It made its debut in 1963 when it appeared in an international memorandum at the Stanford Research Institute and surfaced in the literature of planning, project management, organisational and systems theory and corporate social responsibility in the 1970s (Elias & Cavana, 2000; Freeman, 1984). It was in the field of management theory that a systematic tool was developed with clearly defined steps to gather information about stakeholders in order to analyse

and understand their behaviour, intentions, interrelations, agendas, interests, influence and resources (Brugha & Varvasovszky, 2000).

In the sphere of public policy SA has become an important tool. It initially drew on the earlier management and organisational theory and the work of policy scientists including Lindblom (1959)[1], Gergen (1968)[2] and Hall *et al.* (1975)[3]. In the 1990s there was noticeable shift in the rational policy making model, which placed a greater importance on the role of stakeholders in decision making, and SA gained momentum as a result (Brugha & Varvasovszky, 2000). SA began to infiltrate such divergent fields as economics, health, social reform and environmental and natural resource management with noteworthy contributions by Reich (1994)[4], Grimble *et al.* (1995)[5] and Mitchell *et al.* (1997)[6].

SA is particularly relevant in public policy as it is largely accepted that public policy is driven by value differences and that dealing with intractable policy issues depends on developing a good understanding of the problem in a political context that incorporates the interests of relevant stakeholders and their values (Weible, 2006). In some cases seeking the viewpoint of stakeholders has become a legal requirement with the development of new forms of accountability in public administration. Nevertheless, Bridgman & Davis (2004, 78) advocate that including stakeholders in the policy process is 'often just smart policy making'.

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[1] Lindblom (1959) developed a six-step incremental model to explain the policy process that was characterised by different interest groups who negotiated, bargained and compromised with each other to further their interests.

[2] Gergen (1968) recognised the role of stakeholders as potential 'leverage points' in policy formulation and the need to obtain information about them to ensure policy implementation was successful.

[3] Hall *et al.* (1975; cited in Brugha & Varvasovszky, 2000) developed a model for agenda setting that included the concept of support, legitimacy and feasibility for explaining which issues get on the agenda.

[4] Reich (1994; cited in Brugha & Varvasovszky, 2000) developed a political mapping tool that had six stages, the third of which was SA where information is collected about the objectives and motives of the actors at play.

[5] Grimble *et al.* (1995) developed a typology for classifying stakeholders on a continuum from the micro to macro level to consider the interlinkages between conflict and tradeoffs in relation to an issue.

[6] Mitchell *et al.* (1995) developed a model to determine the importance of stakeholders by their possession of one or more of three attributes: power, legitimacy and urgency.

4.2.2 Methodological strengths

SA has become an increasingly important analytical tool in any decision making process. It is a social research tool that encourages participation and consensus building in decision making. It is a systematic approach to understanding the key issues and complex relationships between stakeholders and how this might affect a decision, and is therefore a powerful heuristic device (Weiss, 2003; Mitchell *et al.*, 1997). The purpose of SA is to evaluate and understand stakeholder values, interests, attitudes and aspirations to determine their importance, facilitate a more coherent dialogue, and create a more transparent decision making process (Brugha & Varasovszky, 2000).

SA can assist in conflict resolution by providing a platform on which stakeholders can identify themselves and express their divergent interests to other stakeholders. SA seeks to build a shared understanding between stakeholders by encouraging them to find some middle ground for negotiation and to recognise the value of joint cooperation (Jennings & Lockie, n.d.) It promotes a greater understanding of the mutual needs of stakeholders and encourages more positive cooperation. SA therefore strengthens the democratic and participatory aspects of decision making, which ultimately leads to more creative, effective and legitimate outcomes (Hall, 2000).

From a policy perspective, SA helps policy makers and managers to be informed about the political environment surrounding a decision before it is implemented (Schmeer, 2000). It is most commonly used as a form of consultation for policy decisions. It gives marginalised stakeholders greater capacity to participate effectively in the decision making process than they would have in conventional political forums, which can often by dominated by a voice that may not be representative of community sentiment or of other stakeholder interests (Bridgman & Davis, 2004). SA overcomes this shortcoming and lends legitimacy to an outcome.

4.2.3 Methodological weaknesses

SA is a valuable tool as its flexibility and participatory application supports decision making processes. However SA alone is not a panacea to good decision making. It has a number of shortcomings that can easily undermine the outcomes. SA identifies and

analyses the actions, perceptions, behaviours, experiences and thoughts of stakeholders to determine their agenda and capacity to influence. Stakeholders are dynamic in nature as their interests, priorities and perceptions can change rapidly. Rigorously pursuing SA is a time consuming process and consequently the outcome of a SA may become quickly outdated, limiting its value (Brugha & Varvasovszky, 2000).

SA is a tool that relies heavily on the assumptions of the researcher and can be significantly shaped by judgemental choices. A researcher decides what the issue/s are, which stakeholders to include, what data to collect and what interpretations to make (Burgoyne, 1994). In addition, these assumptions and choices can influence the methods used in SA and how rigorously these methods are applied (Wolfe & Putler, 2002). SA must be pursued rigorously or it will fall short in its determination of the relevant interests and importance of stakeholders and leave itself open exploitation.

SA develops a set of typologies that differentiates stakeholders into distinct groupings. Stakeholders within these groups, however, may not share exactly the same interests: rather they exhibit variations in their interests and perceived stakes and even a rigorous application of SA may not recognise these small but important differences (Wolfe & Putler, 2002). Furthermore, SA does not provide a theoretical basis for explaining the interconnections that drive these typologies (Weible, 2006) and as such SA may be further distorted by the judgemental choices and assumptions of both the researcher during the analysis and the end user.

SA may also be undermined by the political machinations in which stakeholders exist. Stakeholders may have unspoken agendas that deter them from giving forthright and candid responses, hence limiting the usefulness of the results (Brugha & Varasovszky, 2000). This is particularly relevant at the macro level, where the interests and agendas of the upper levels of government and/or large organisations can be difficult to extract. In this situation, the less powerful stakeholders may play into the hands of the more powerful as information about their interests, agendas and decision making criteria becomes public knowledge (Grimble *et al.* 1995).

Finally, SA falters when situations arise in which self-interest is not the key motivator that is driving stakeholder priorities. The majority of stakeholders are driven by their own interests and SA is easily able to distinguish those interests and group stakeholders

together who share similarities in their interests. Nevertheless, there are stakeholders who are formed on the basis of a common set of beliefs that result in a common set of priorities and who are able to exert influence in decision making processes (Wolfe & Putler, 2002), such as not-for profit non-governmental organisations. The difficulty lies in integrating self interest and common interest in one typology as each stems from a different value system.

4.3 Procedure

SA is a systematic tool that gathers information from stakeholders to produce a multi-dimensional dataset, which can be analysed in a variety of ways. According to Grimble *et al.*, (1995, 6) rigorous application of SA would adhere to the following six steps:

1. Identify main purpose of analysis
2. Develop an understanding of the system and decision makers in the system
3. Identify principle stakeholders
4. Investigate stakeholder interests, characteristics and circumstances
5. Identify patterns and contexts of interaction between stakeholders
6. Define options for management

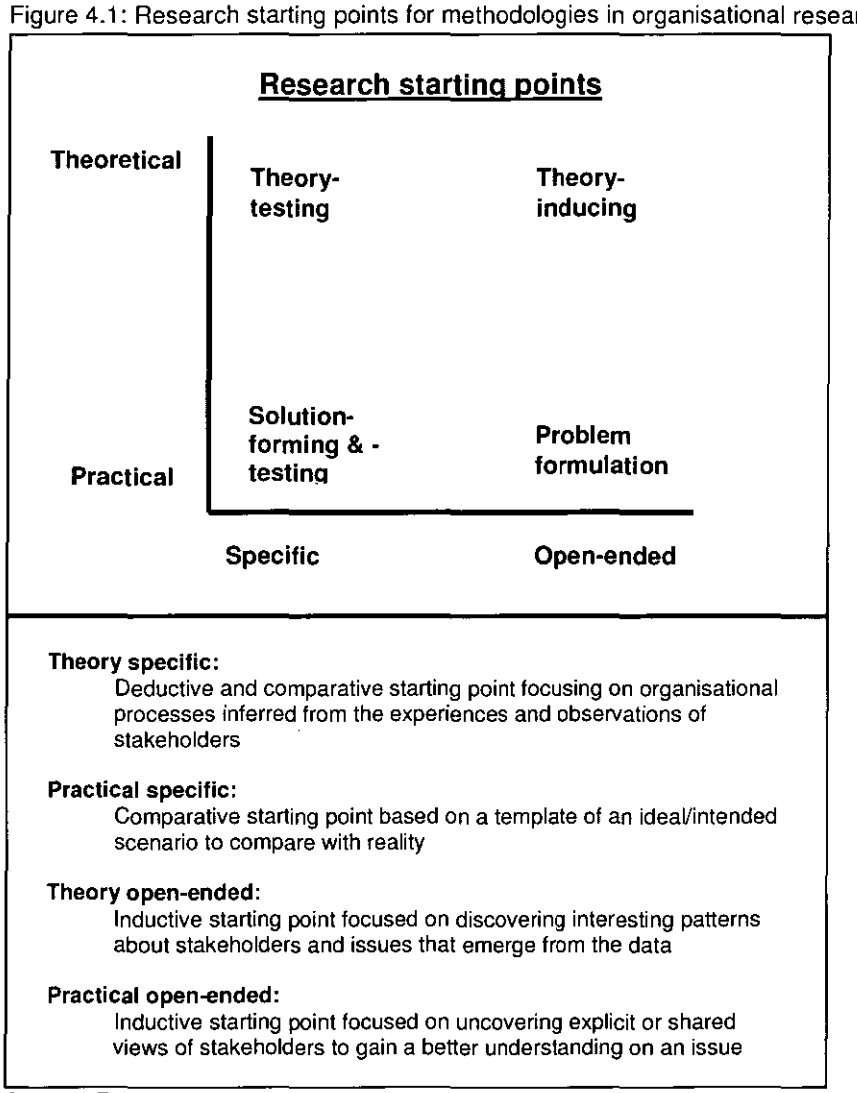
Steps 1, 2 and 3 are conducted in the initial stages of SA, with the statement of aims, review of the literature and first approach of stakeholders who have been identified. Steps 4 and 5 form the backbone of SA as this is where the primary research and analysis takes place. Step 6 specifically refers to options of management however this step could widen to be more inclusive of other study fields and would thus represent the discussion and outcome of the analysis. Steps 1, 3, 4 and 5 are discussed in more detail below.

4.3.1 Step 1: Identifying main purpose of analysis

The first and foremost step in SA is to identify the research aims and the intended outcome/s, and therefore deduce the starting point for research. Burgoyne (1994) identifies four main research starting points, illustrated in figure 4.1, that range from the theoretical to practical and specific to open-ended. The research starting point

determines whether the dataset will be analysed deductively, inductively or comparatively, and it will determine what aspect/s of the study will be the focus of the analysis.

Figure 4.1: Research starting points for methodologies in organisational research



Source: Burgoyne, 1994, 194-195.

4.3.2 Step 3: Identifying principal stakeholders

Identifying stakeholders is one of the most difficult steps in SA as they are often a large and diffuse group with varied interests (Tasmanian Government, 2005). It would ideally involve sequential sampling from the literature and from the initial data derived from the stakeholders who have already been identified until nothing new turns up (Burgoyne,

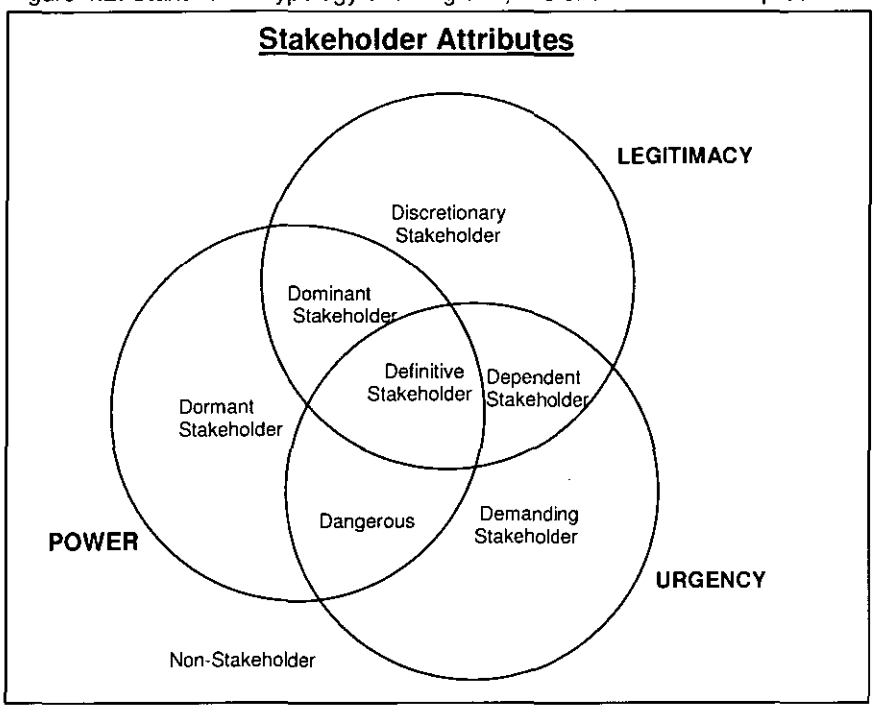
1994, 192). However the time constraints of research may preclude such a purist approach and the line will have to be drawn somewhere. Consequently deciding which stakeholders are important and who should be included becomes a delicate issue.

Stakeholders include all those who affect or are affected by a policy, decision or action and they can be individuals, communities, interests groups or institutions of any size, aggregation or level in society (Grimble *et al.*, 1995). With the potential for such a wide range of stakeholders, a sorting criterion is usually required to narrow the range to include those stakeholders who really count. This can prove difficult at such an early stage in SA as all the initial information about stakeholders is generally acquired from secondary sources, which may not be up to date, and from other stakeholders which may be prone to misconception.

Identifying stakeholders is fundamental to an accurate SA, yet the literature does not provide much guidance on how to identify who and what really counts. Stakeholders have been identified in wide variety of ways; as primary or secondary, at a micro or macro level, as voluntary or involuntary, owners or nonowners, rights holders or dependents, claimants, resource providers, and so on (Mitchell *et al.*, 1997; Clarkson, 1995; Grimble *et al.*, 1995; Freeman, 1984), but the reality is that virtually anyone can affect or be affected in decision making processes.

Mitchell *et al.*, (1997) provides a useful model that identifies stakeholders by their possession of one or more of the following attributes: power to influence, the legitimacy of the stakeholder's claim, and urgency of the stakeholder's claim. The model, illustrated in figure 4.2 is based on the normative assumption that these attributes define who should be included in a SA. Mitchell *et al.*, (1997) also provides a typology to categorise stakeholders who demonstrate one or more of these attributes, which would assist in determining an order of importance in the analysis.

Figure 4.2: Stakeholder typology showing one, two or three attributes present



Latent stakeholders:

Dormant:	possess power to impose their will but do not have a legitimate or urgent claim and thus their power remains unused
Discretionary:	possess legitimacy but have no power to influence or urgent claims and thus there is no pressure to respond to them
Demanding:	have urgent claims but lack power and legitimacy and thus are unable to project their claim beyond latency

Expectant stakeholders:

Dominant:	powerful and legitimate stakeholders are able to exert influence with relative importance
Dependent:	stakeholder who lacks power but have urgent legitimate claims rely on others for the power necessary to carry out their claims
Dangerous:	stakeholders possessing power and urgency but who lack legitimacy may be coercive and coercion often accompanies an illegitimate status

Definitive stakeholder:

Exhibits power, legitimacy and urgency, implying the stakeholder has a clear mandate to pursue their claims and should be given priority

Source: Mitchell *et al.*, 1997, 874-879.

4.3.3 Step 4: Investigate stakeholder interests and characteristics

Collecting information about stakeholders provides the material for SA and the methodology needs to be carefully thought out to ensure it matches the intended outcomes. SA is flexible in its application as it fits in with a broad range of research philosophies and it can be used in conjunction with a variety of specific and technical methods, even employing multiple methodologies simultaneously much like a case study (Burgoyne, 1994). It is an important step as very little information about stakeholders can be derived from secondary sources and thus obtaining accurate information usually requires a first hand approach.

The kind of information collected about stakeholders depends upon what the research hopes to achieve and the projected outcomes and end user. Schmeer (2000) maintains that when analysing a specific policy, the following information about key stakeholders is necessary to ensure a comprehensive and effective analysis: their knowledge of the policy, position in relation to the policy, interests, alliances with other stakeholders that may strengthen or weaken their position, conflict with other stakeholder interests, resources at their disposal, ability to influence the implementation of a policy, and finally their willingness and capacity to invoke or lead an action in relation to a policy.

4.3.4 Step 5: Identify patterns and contexts of interaction between stakeholders

This step is where the information gathered from stakeholders about themselves, and about other stakeholders, is arranged into a more concise and systemised format for analysis. Data analysis focuses on comparing the information to develop conclusions about the power and influence, knowledge, position, interests, possible and/or actual alliances, and conflict, and therefore the importance of stakeholders relative to each other (Schmeer, 2000). A detailed guide of how to arrange stakeholder information into a systemised format is provided below.

Much of the information is derived from Schmeer's (2000) chapter 'SA Guidelines' in *Policy Toolkit for Strengthening Health Sector Reform*. This publication was funded under the Partnerships for Health Reform*plus*, a project by the US Agency for

International Development and it is aimed at the neutral, non-political and independent user.

4.3.4.1 Power and Leadership

Power is a complex multi-dimensional notion that impacts upon every facet of decision making on every level. Power, according to Weber (1947) is 'the probability that one actor with a social relationship would be in a position to carry out his own will despite resistance'. It is particularly relevant to SA as the capacity of a stakeholder to realise their ambitions directly affects how they relate with other stakeholders. In any decision making process there will be stakeholders who have more power and therefore the ability to influence that process.

Although power may not be difficult to recognise, it is difficult to define and document (Salancik & Pfeffer, 1974). The ability of a stakeholder to influence the decision making process by exercising their power over others is largely derived from their available resources and their ability to mobilise those resources (Schmeer, 2000). Leadership is also a significant attribute that needs to be considered in combination with power. Power and leadership together shows who has the capacity to influence and the ability and/or will to lead, and therefore determines how important a stakeholder is in decision making.

Stakeholders can be categorised by their power and leadership into three groups: those who have leadership and high power, those who have leadership and medium power, and those who do not have leadership but have high to medium power (Schmeer, 2000). This is demonstrated in figure 4.3. By categorising stakeholders into these groups the analysis is able to focus on the most influential stakeholders who can lead on an issue. Mapping power and leadership is important as it can be cross referenced with the position, interests, alliance and conflict data to show various correlations between stakeholders.

Figure 4.3: Stakeholder importance in accordance with leadership and level of power

Power & Leadership Analysis

Group 1: *Leadership/ High Power*	Group 2: *Leadership/ Medium Power*	Group 3: *No Leadership/ Medium-High Power*
Federal Minister	Local Politicians	NGOs
Cabinet	Govt. Agency Director	Local businesses
State Minister	Regional Organisations	Interests Groups

Source: modified from Schmeer, 2000, 24.

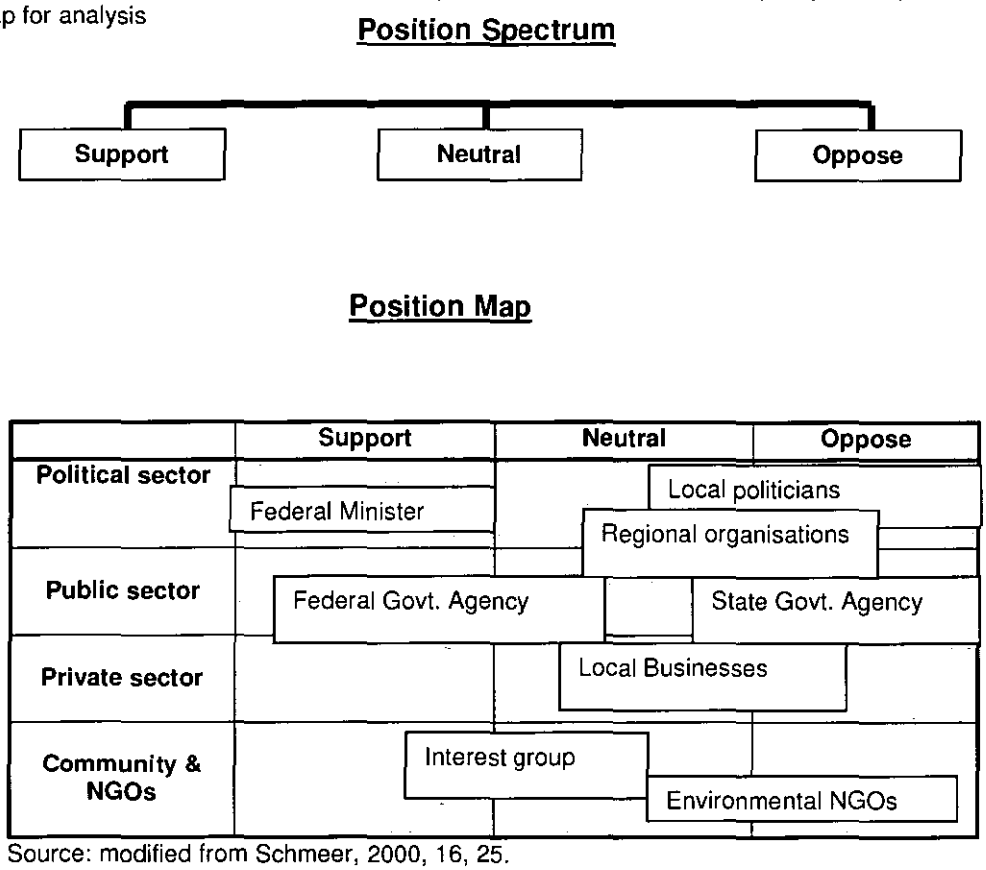
4.3.4.2 Knowledge

The knowledge of a stakeholder is one of the simplest characteristics to discern. Although it could easily be addressed in text, a stakeholder could also be assigned a number according to their level of knowledge. Assigning a quantitative value allows it to be cross referenced with other characteristics. For example, cross referencing knowledge with power and leadership highlights how important stakeholders who have a high level of knowledge are, and their capacity to influence the decision making process (Schmeer, 2000).

4.3.4.3 Position

Every stakeholder has a position in relation to an issue, decision or policy, which has two aspects to it: the self-reported position and the position as perceived by others (Schmeer, 2000). Figure 4.4 provides a spectrum for positioning stakeholders in relation to a policy and a position map for analysis. It is important to incorporate both aspects as a stakeholder may misrepresent their position unintentionally or deliberately. If a discrepancy is noted then the weight of the information needs to be considered carefully before placing the position of a stakeholder, although the position of a stakeholder is generally in keeping with their interests.

Figure 4.4: Position spectrum for positioning stakeholders in relation to a policy and a position map for analysis



Source: modified from Schmeer, 2000, 16, 25.

The position spectrum is useful in showing which stakeholders share similar ground, thereby illustrating the potential for an alliance between stakeholders. Further, by comparing the stakeholders' position with their relative power, it shows which stakeholders can exert influence for or against a particular issue, decision or policy.

4.3.4.4 Interests

Stakeholder interests may vary widely but they need to be carefully documented as their interests drive their behaviour. Stakeholder interests are documented in full to ensure they are accurately represented. As stakeholders either affect, or are affected by, the decision making process, their interests may be an advantage or disadvantage. Utilising an indicator to illustrate this can help explain their position. In addition, interest data can

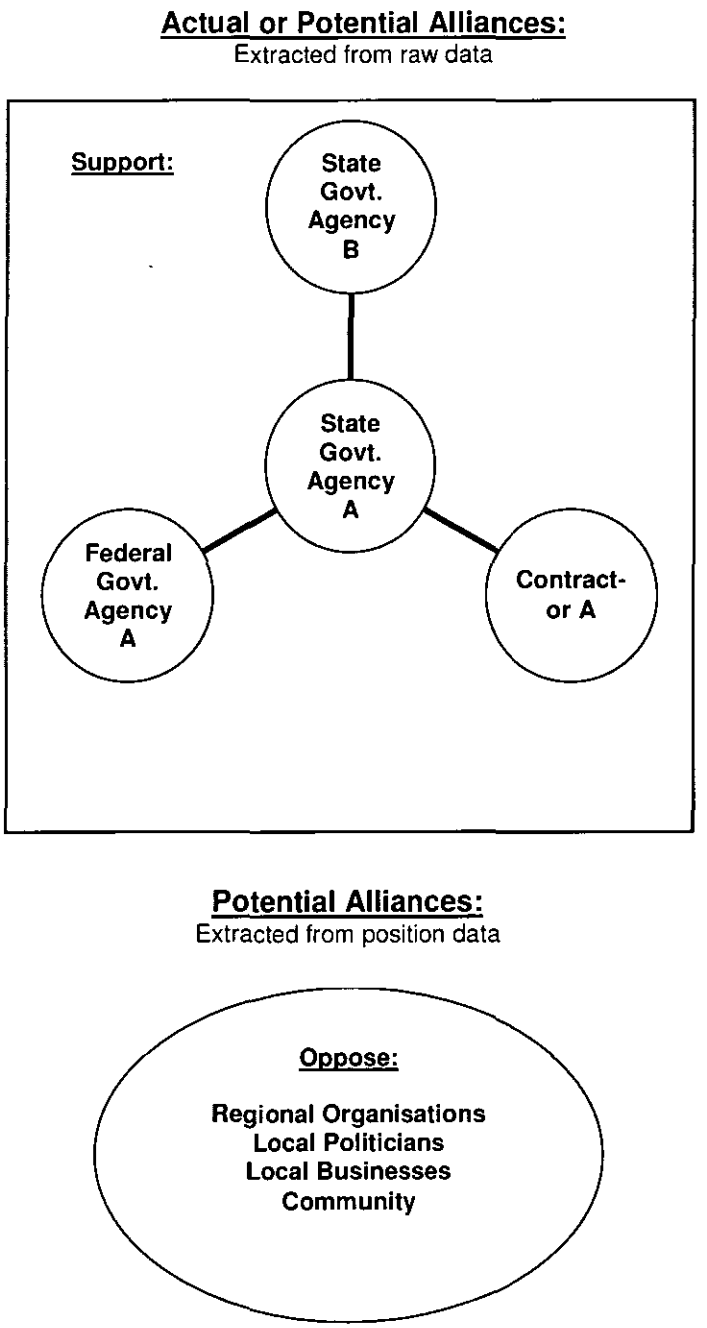
be cross-referenced with the power and influence to determine what the most important stakeholders have to gain or lose from the implementation of a decision (Schmeer, 2000).

4.3.4.5 Alliances

It is not uncommon for stakeholders to work together in collaboration over an issue in order to strengthen their position and work towards a common goal. Stakeholder alliances can be identified in two ways: by going through the raw data and noting where a stakeholder has specifically mentioned another stakeholder that they actually work with or would work with given the opportunity, or by transferring the position clusters from the position spectrum (Schmeer, 2000). Both methods are illustrated in Figure 4.5.

Although either method would identify potential alliances between stakeholders, only the first method would derive actual alliances. Actual alliances may also be determined from the literature. Referring back to the literature may also assist in verifying the assumption of an alliance. The alliance data can be cross referenced with the power and leadership data to identify whether stakeholders are grouping together and show how power may cumulate in specific groupings and the capacity of leadership that these groups may possess.

Figure 4.5: Key alliances showing actual and potential alliances determined from the raw data and position data

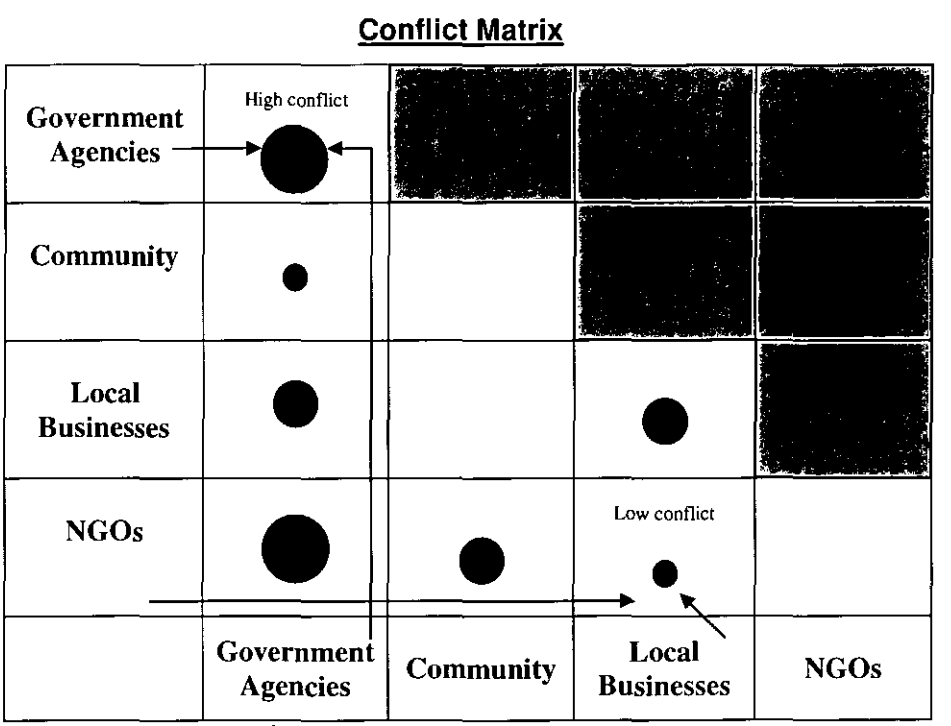


Source: modified from Schmeer, 2000, 28.

4.3.4.6 Conflict

The often divergent interests of stakeholders may also lead to greater conflict over an issue. According to Grimble *et al.* (1995, 10) 'conflicts are situations of competition and/or disagreement between two or more stakeholder groups'. Understanding conflict is to understand the nature of power and authority, socio-cultural relationships, historical contexts and legal institutions. Understanding conflict is imperative in SA as conflict often influences behaviour and therefore alters the dynamics within and between stakeholder groups. Figure 4.6 provides a matrix for identifying and assessing the significance of conflicts between stakeholders.

Figure 4.6: Matrix showing the occurrence and extent of stakeholder conflicts



Source: modified from Grimble *et al.*, 1995, 8.

4.4 Summary

SA is a valuable tool in any decision making process as it is promotes participation and encourages legitimate outcomes. It is flexible in its application and lends itself well to multiple methodologies and does not limit itself to either the quantitative or qualitative approach. The systematic, step by step guidelines to SA makes it relatively easy to use compared to other forms of analysis and thus SA has become increasingly popular and is now widely used in policy making at all levels of government.

This chapter has explored the origins of the stakeholder approach and the emergence of SA in management theory and policy science. It has outlined the strengths and weaknesses of SA and provided a step by step procedural guide to identifying important stakeholders and analysing their characteristics. It lays the foundation for a strong conceptual framework on which to build the analysis component of this thesis.

5. Results

5.1 Introduction

This chapter provides the analysis of MI's stakeholders, including the starting point of this research, a pictorial process of stakeholder identification, and a list of actual participants, their values in general, power and influence, and knowledge of the MINR Plan. This is followed by an analysis of stakeholder characteristics in relation to specific management policies detailed in the Plan and additional pressing issues that are affecting management decisions and practices but are not referred to in the Plan. An analysis of stakeholder characteristics, including position, interests, actual and potential alliances, and the potential for, or actual conflict, is undertaken with a description provided in the body of this chapter, which are based on analysis tables presented in appendix 5.

The purpose of the analysis is to determine who has a justifiable stake in MI, who has the resources and capacity to influence management decisions, what their interests are and how they operate to serve those interests, what alliances have or may arise that would strengthen or weaken a stakeholder's position, and how conflict impacts upon effective management and positive outcomes. The analysis will provide the foundation for establishing how stakeholders perceive the effectiveness and relevancy of the Plan in its implementation, how stakeholders would address the issues that sit outside the Plan, and what the future might hold in store for MI.

5.2 Research starting point

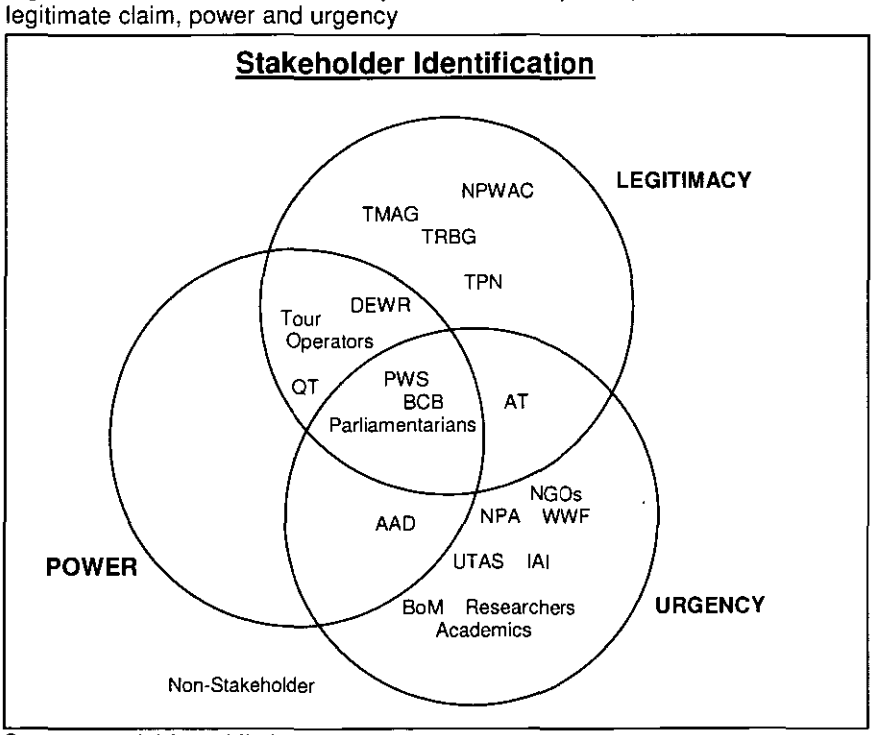
The aims, output and intended outcomes of the research are consistent with a practical open ended starting point, whereby the research focuses on uncovering the explicit views of stakeholders to gain a better understanding of what influences management decisions and practices for MI. A first hand approach was necessary as little information was available in the literature about the values, beliefs and perceptions of stakeholders. Thus semi-structured interviews were conducted with key informants willing to

participate. The qualitative approach is consistent with the research starting point and compatible with stakeholder analysis.

5.3 Stakeholder identification

Stakeholders have been identified from the literature and through other stakeholders. They are numerous, diverse and diffuse and therefore their importance must be established to determine who should be included in the analysis. Figure 5.1 identifies stakeholders by their possession of a legitimate claim in the management regime of MI, the power to influence management decisions, and/or an urgent agenda to further their interests. The explanatory notes provided in box 5.1 confer justification for the position of each stakeholder in figure 5.1.

Figure 5.1: Identification of MI's key stakeholders by their possession of a legitimate claim, power and urgency



Source: model from Mitchell *et al.*, 1997, 874.

Box 5.1: Explanatory notes for stakeholder identification

Definitive stakeholders:

PWS	clear mandate, medium power, urgent need to implement eradication program
BCB	clear mandate for threatened species, medium power, urgent need to implement eradication program
Parliamentarians	clear mandate, powerful, and capacity to lead on an issue and deal with issues urgently as the policy agenda allows

Expectant stakeholders:

Dominant:

DEWR	clear mandate for international conventions (*EPBC Act*) powerful in resources and capacity to lead
QT	clear mandate for biosecurity, powerful in its operations and capacity to lead
Tour Operators	clear mandate allocated if they meet criteria, powerful in logistics

Dependent:

AT	clear mandate for policy on Antarctic gateway, medium power but no capacity to lead, urgent agenda to improve consultation and co-management

Dangerous:

AAD	no clear mandate, powerful, urgent need to reprioritise and reallocate resources

Latent stakeholders:

Discretionary:

NPWAC	clear mandate for reporting on protected area issues, no power or capacity to lead, has not indicated an urgent agenda
TMAG / TRBG	clear mandate to provide educational experiences off-reserve, no power, no urgent agenda
TPN	clear mandate set by its members, no power to directly influence, no urgent agenda although one may arise on consensus

Demanding:

BoM	no clear mandate, lacking in logistical resources and no capacity to lead, urgent need to ensure their operations continue uninterrupted
UTAS	no mandate, no power to influence directly, urgent agenda to get field camp proposal off the ground
IAI	no mandate, no power to influence directly, urgent agenda to acquire globally marketable tertiary courses
Academics	no mandate, no power to influence directly, urgent agenda depending on the context of the research / studies / professional focus
WWF / NPA	no mandate, power to lobby only, urgent agenda to have eradication program implemented

Dormant:

None recognised

Source: template from Mitchell *et al.*, 1997, 874-879.

5.4 Power and Leadership

Through the process of stakeholder identification, the ability of individual stakeholders to influence management decisions and their capacity and/or will to lead in key issues is further deliberated. Table 5.1 categorises stakeholders into three groups based on their level of power and their capacity to lead. Power is based on the amount of resources available to a stakeholder and their ability to mobilise those resources, and leadership on their capacity and/or will to channel those resources to direct and lead others towards management outcomes.

Table 5.1: Stakeholder categorisation according to level of power and capacity to lead

Power and Leadership		
Group 1: ***Leadership / High Power***	***Group 2:*** ***Leadership / Medium Power***	***Group 3:*** ***No Leadership / Medium-High Power***
Cth Cabinet	PWS	AT
Cth Minister of Environment	QT	Tour Operators
State Cabinet	BCB	
State Minister of Environment		
DEWR / AAD		

The most powerful stakeholders influencing management decisions and practices on MI are both State and Commonwealth Cabinets and Minsters as they ultimately determine departmental priorities, budgets and special funding arrangements, thus dictating the level of resources available for MI. In addition, DEWR has significant resources and a demonstrated capacity to lead at a departmental level and through AAD. Stakeholders with some resources and a capacity to lead in their specific areas comprise the State Government agencies of PWS, QT and BCB. Tour operators are powerful stakeholders at an operational level yet they have little capacity to lead at a policy level, whereas AT has some power at a policy level it lacks the capacity to lead.

5.5 Actual Participants

Once the key stakeholders who have a vested interest in MI were identified, individuals who had the capacity to represent a specific stakeholder were invited to participate. Participants were targeted for their knowledge of how the stakeholder they represented interfaced with the management regime and their understanding of the key issues that surround MI. Table 5.2 lists the participants and the stakeholder they represent, their position or connection with MI, and other connections they may have.

Table 5.2: List of participants, the stakeholders they represent, their position and other connections with MI

Participating Stakeholders				
Stakeholder:	***Representative:***	***Position:***	***ID:***	***Other connections:***
Parks & Wildlife Service	Terry Reid	Macquarie Island Executive Officer	1	Tour guide for three seasons
	Keith Springer	Eradication Process Officer	2	
Quarantine Tasmania	Phil Reid	Program Manager - Legislation, Compliance, Training & Surveillance	3	
Antarctic Tasmania	Ben Galbriath	General Manager	4	Member of Tasmania Polar Network
University of Tasmania	Prof Andrew McMinn	Director, Institute of Antarctic and Southern Ocean Studies	5	International Antarctic Institute, member of Tasmanian Polar Network
Tasmanian Polar Network	Bill Lawson	Chairman	6	
Tourism	Greg Mortimer	Owner operator, Aurora Expeditions	7	Member of Tasmania Polar Network
	Rodney Russ	Owner operator, Heritage Expeditions	8	Member of Tasmania Polar Network
	Rod Ledingham	Expedition leader & guide, Quark Expeditions	9	Former station leader for AAD Member of Tasmania Polar Network
Academics / interested & knowledgeable people	Prof Don Rothwell	Professor International Law ANU	10	
	Alan Hemmings	Environmental Consultant - Polar Regions	11	Member of Australian Science Antarctic Committee
	Dr Julia Jabour	Senior lecturer, Institute of Antarctic and Southern Ocean Studies	12	Deputy Program Leader - Policy, Antarctic Climate & Ecosystems CRC
	Sir Guy Green	Tasmanian honorary Antarctic Ambassador	13	Chair of Midwinter Festival Chairman of Trustees TMAG Organised four Governor's Forums on 'Tasmania, the Antarctic and the Sub-Antarctic' Chair Steering Committee for the development of International Antarctic Institute

Out of a total of 20 stakeholder representatives originally targeted, 13 indicated they were willing to participate. Each participant agreed to be identifiable in the research by his or her name and/or position. Interestingly, eight of the participants revealed they had additional connections with MI, demonstrating the existing linkages between stakeholders. Seven targeted representatives did not respond or were unwilling to participate, a number of them were key players in MI political and logistical landscape. Table 5.3 lists non-participating stakeholders and the reasons, if any, for their non-participation.

Table 5.3: List of non- stakeholders, the position of targeted participants, and the reason, if any, for non-participation

Non-participating Stakeholders		
Stakeholder:	***Position:***	***Reason:***
Australian Antarctic Division	Director	No response to invitation or follow-up emails
	Chief Scientist AAP	No response to invitation or follow-up emails
	General Manager Expedition Operations	No response, travelled to Antarctica early 2007
	Manager, Antarctic and International Policy	Email correspondence, willing to give personal views but not as a representative of AAD
Tasmanian Cabinet	Tasmanian Minister for Tourism, Arts and the Environment	After requesting information about the research, the Minister's Office advised the Minister does not participate in this kind of research because of the sensitive information she is privy to
Researchers / Academics	Biogeographer / ecologist UTAS	No response to invitation or follow-up emails
World Wildlife Fund Australia	Biodiversity Program Leader	Biodiversity Officer leading the campaign was on sick leave
National Parks & Wildlife Advisory Council	Chair	Initial response to email but no further correspondence
Bureau of Meteorology	Supervising Meteorologist	No response to telephone enquiry, no follow up

Participants were asked a range of open ended questions about the values of MI, management of human use, key issues and future prospects. The schedule of questions is provided in Appendix A.

5.6 Values

The values that participants ascribed to MI were diverse. Table 5.4 demarcates these values against a value typology drawn from the literature. The most common value, referred to by six participants, was the intrinsic value of MI's flora and fauna. Five participants referred to historical values and the iconic uniqueness of MI, and four to its location. A number of values were anticipated which were not referred to at all, specifically values relating to the direct and indirect use of MI. Interestingly, even the three tour operators who participated did not mention tourism. Five additional values were explicitly mentioned by participants and have been included outside of the value typology.

Table 5.4: Participant values marked into a value typology specific to protected areas

Values						
Intrinsic values:	***geological*** 4, 7, 13	***flora and Fauna*** 1, 2, 4, 7, 9, 13	***ecosystems*** 2, 7, 13	***landscape*** 1	***marine***	***location*** 1, 4, 5, 6
Onsite values: (direct use)	***ecosystem processes***	***tourism***	***historic sites and artefacts*** 1	***Science and research*** 2, 4, 6	***Aesthetic***	***Economic*** 2, 6
Offsite values: (indirect use)	***biodiversity*** 8	***futures and options***	***ecological services***			
Community values: (non-use)	***historical*** 2, 4, 6, 7, 11	***Cultural*** 2	***identity*** 6, 8	***spiritual meaning***	***bequest for future generations***	
Individual values: (non-use)	***existence satisfaction*** 1, 2	***experiential satisfaction***	***transformative*** 1, 13	***psychological*** 1, 8		
Other values: (identified by participants)	***Remoteness*** 1, 4	***Wilderness*** 4	***Iconic & unique*** 1, 4, 5, 7, 11	***Islandness*** 13	***Community (onsite)*** 13	

Source: value typology from Worboys *et al.*, 2005, 78-84.

5.7 Knowledge

Participants were asked how familiar they were with the MINR Plan and table 5.5 categorises each participant on their level of knowledge of the Plan. Three participants indicated they were thoroughly familiar. Six participants indicated they were familiar in broad terms and have therefore been categorised as having medium level of knowledge, including both representatives from PWS. To clarify, both PWS Officers pointed out they refer to the Plan often in their work. Three participants indicated they have little knowledge of the Plan. Of the participating stakeholders AT, UTAS, and two tour operators commented on the draft Plan at the RPDC review in 2005.

Table 5.5: Participant knowledge of the MINR Plan

Knowledge		
MINR Management Plan 2006		
Group 1: High	***Group 2: Medium***	***Group 3: Low***
3, 5, 11	1, 2, 4, 7, 8, 13	6, 9, 10

By comparing participant knowledge with their power and leadership, one can deduce how knowledgeable influential stakeholders are. The participants who represent stakeholders with both power and leadership, including QT and PWS have indicated a high to medium knowledge of the Plan respectively. Of the participants who represent stakeholders with power but no leadership, including AT and two tour operators, all three participants indicated they are broadly familiar with the Plan.

5.8 Stakeholder analysis of MINR Plan

The following section provides the analysis of stakeholder characteristics in relation to the MINR Plan. This approach is also used for the four topical issues that are not referred to in the Plan. The analysis is presented in table format to ensure all the

relevant information is conveyed concisely and effectively. Each table is accompanied by a summary detailing the position of influential stakeholders, their interests, actual or potential for alliances, and the level of conflict that may exist between them.

5.8.1 Alien species management

Ten participants addressed alien species management (table 5.6), with six supportive of the management policies laid down in the MINR Plan, three maintaining a neutral position and one opposed. The interests and opinions of participants justify their position. A common theme highlighted by participants was the legacy issues caused by introduced feral mammals and the need to deal with these issues comprehensively at the earliest opportunity. This is dealt with in more detail further on in the analysis as the eradication program is a key issue in the management of MI at present.

Two participants indicated they were supportive of management policies so long as they did not onerously impinge on access to MI, one participant believed the Plan failed to deliver in terms of future threats from technological developments, and another believed that more consideration needs to be given to the impact of climate change on species establishment. Of the three most knowledgeable participants, two were supportive of the policies in the current context, and one opposed.

Of the participants who represented stakeholders with both power and leadership, PWS Officers and QT all support the policies and work together in alliance with BCB to bring about effective implementation. Of participants who represented stakeholders with power but no leadership, one tour operator was supportive so long as it did not impinge on visitation and AT and the other tour operator held neutral position on the grounds that the policies did not appear to encourage a comprehensive approach to species management, nor did it address the legacy of feral pests.

The diffusion in interests and opinions negated any potential for alliances that did not already exist and there did not appear to be any conflict over management policies that unduly affect stakeholder behaviour or policy implementation.

Table 5.6: Stakeholder analysis for alien species management

Alien Species Management

Participant ID	Position			Interests & Opinions	Alliances		Conflict			Power & Leadership			Knowledge		
	Support	Neutral	Oppose		Actual	Potential	High	Medium	Low	1	2	3	1	2	3
1	✓			Minimise threat of alien introductions from human visitation and eradicate existing pests that pose a significant threat to MI	PWS BCB QT						✓			✓	
2	✓			Plan and execute eradication program							✓			✓	
3	✓			Ensure pest eradication and monitoring programs meet bio-security requirements							✓		✓		
4		✓		Supports a comprehensive approach to pest management that incorporates a better understanding species interactions and how the elimination of one species impacts on another								✓		✓	
5	✓			Supports current management practices, but believes MI is under threat from State neglect and more consideration needs to be given to the impact of climate change									✓		
6				No comment											✓
7		✓		Legacy issues are the greatest threat and need to be addressed								✓		✓	
8	✓			Supportive of any action that would protect MI from the impact of alien species that does not impinge heavily on visitation								✓		✓	
9		✓		Rabbits need to be eradicated immediately											✓
10				No comment											✓
11			✓	Fails to consider future threats from GMO seeds, pathogens and nanotechnology									✓		
12				No comment											
13	✓			Supportive of conservative approach so long as access is not onerously restricted										✓	

5.8.2 Quarantine management

The policies underpinning quarantine management (table 5.7) have the support of seven participants out of the eleven who commented. Two participants held a neutral position. One was assigned this position due to their unfamiliarity with current quarantine practices in relation to government cargo where the belief was held that this posed the greatest threat, yet the participant was familiar and supportive of measures pertaining to tourism. Whilst the other believed measures were sufficient at present but not in the future. Two participants were opposed on the basis that there were more effective methods available.

Of the participants who were supportive three specified the measures *appeared* to be effective as there had been no news of any new introductions, potentially indicating a poor awareness of actual management practices and success rates. Of the most knowledgeable participants QT was supportive as the management authority, yet UTAS was opposed on the basis that the measures were tokenism and it is too difficult to prevent introductions.

Of the participants who represented stakeholders with both power and leadership both PWS and QT were supportive of the measures and are, in part, tasked with implementation. This stakeholder group is part of an actual alliance currently in formation between State and Commonwealth Government agencies assigned with providing advice on quarantine matters in relation to the eradication program. All the participants who represented stakeholders with power but no leadership were also supportive of quarantine measures. No explicit or value based conflict between participants was identified.

Table 5.7: Stakeholder analysis for quarantine management

Quarantine Management																	
Participant ID	Position			Interests & Opinions	Alliances		Conflict			Power & Leadership			Knowledge		
	Support	Neutral	Oppose		Actual	Potential	High	Medium	Low	1	2	3	1	2	3
1	✓			Promote self-regulation of quarantine measures to MI users and ensure high compliance onsite	Quarantine Advisory group: QT (AQIS) Customs AGAD PWS DPIW BCB						✓			✓	
2	✓			Prevent re-introductions of feral mammals during and after eradication program							✓			✓	
3	✓			Implement and enforce measures and evaluate their effectives as specific issues arise. Circulate information to vessels. Prevent re-introduction of feral pests							✓		✓		
4	✓			Supportive of current biosecurity measures as they appear to be effective								✓		✓	
5			✓	Measures are tokenism as it is extremely difficult to keep out plants, seeds and pathogen, particularly if they are airborne									✓		
6				No comment											✓
7	✓			Supportive of stringent self-regulatory measures as IAATO members have a good understanding of quarantine issues								✓		✓	
8	✓			Current measures appear to be adequate to mitigate threats								✓		✓	
9		✓		Real risk is posed by Govt. cargo and past measures have been poorly thought out and implemented.											✓
10				No comment											✓
11		✓		Measures are sufficient for the present but do not address future threats linked to climate change and technological advances.									✓		
12			✓	Quarantine could be stricter yet it is difficult to regulate and self-regulation can produce mixed results. Should consider replicating NZ's quarantine system.											
13	✓			Measures appear to be effective at minimising the threat of further introductions										✓	

5.8.3 Management Zoning

Policies driving management zoning (table 5.8) had the support of five participants, with three holding a neutral position and two opposed. Two concurrent themes were apparent from the analysis. All five participants in support cited zoning as a risk management approach that reconciles competing interests and determines what activities are acceptable where. The remaining participants who represented stakeholders in favour of human use indicated there is a need for greater flexibility in zoning, particularly for tourism.

Of the three most knowledgeable participants, two were supportive and one vehemently opposed to both the application and the implementation of zoning. The participants who represented stakeholders with both power and leadership were all supportive with PWS assigned the task of implementation and enforcement. Of participants who represented stakeholders with power but no leadership, AT was opposed on the grounds of a more flexible application and the tour operators held neutral positions as, although they believed there were grounds for greater flexibility for tourism, they thought zoning to be otherwise effective.

The potential for alliances was strong for both themes, although participants did not specify any actual alliances. A potential alliance could form between stakeholders in favour of greater flexibility in the application of zoning including tour operators, AT and UTAS. Meanwhile, a potential alliance could also form between supporters of the current application such as PWS and QT with further backing from academics and interested and knowledgeable people.

In keeping with these two concurrent and opposing themes, there was explicit and value based conflict between participants. UTAS, tour operators and AT have all explicitly indicated varying levels of conflict with PWS over the application of zoning. In addition, PWS is in conflict with non-participating stakeholders such as AAD and research scientists as zoning can potentially disrupt and prevent research activities.

Table 5.8: Stakeholder analysis for management zoning

Management Zoning																	
Participant ID	Position			Interests & Opinions	Alliances		Conflict			Power & Leadership			Knowledge		
	Support	Neutral	Oppose		Actual	Potential	High	Medium	Low	1	2	3	1	2	3
1	✓			To ensure all human activities comply with zoning requirements			UTAS	TO 7, 8, 9	AT		✓			✓	
2	✓			To ensure all aspects of the eradication program are sensitive to the principles of zoning			AGAD Scientists				✓			✓	
3	✓			Supportive of zoning as it is about risk management for areas that are of higher value than others		TO 7,8,9 AT UTAS					✓		✓		
4			✓	Application of more flexible zoning that would allow tourists to visit alternative sites					PWS			✓		✓	
5			✓	Application of more flexible zoning to allow greater freedom onsite and overcome the current ad hoc and poorly regulated approach in which PWS abuses their power and prevents valuable usage of MI		PWS QT Academics	PWS						✓		
6				No comment											✓
7		✓		Supports finer zoning that would see greater flexibility in TMAs and access up to the plateau for tourists				PWS				✓		✓	
8		✓		Greater flexibility in zoning that would allow more access to the plateau and over the west coast for tourists, otherwise zoning appears effective if draconian				PWS				✓		✓	
9			✓	Greater flexibility in allows tourists to view more wildlife or go up to the plateau				PWS							✓
10				No comment											✓
11	✓			Supportive of zoning as it is useful for determining what activities are acceptable.									✓		
12	✓			Important for site specific management and mitigating risk of impact when carrying capacities are unknown											
13	✓			Zoning is a way of reconciling competing interests and should be informed by science										✓	

5.8.4 Access to the reserve

Policies dictating access to MINR (table 5.9) had the support of five participants, with one neutral and five in opposition. Interestingly, every participant who addressed this advocated the application of the permit system to protect heritage values in general, yet there is no consensus on where limits should be set. Participants who supported the quota do so from a conservation perspective where risk management is paramount. Those in opposition were on the basis that limits are arbitrary and not ecologically, scientifically, historically or geographically justifiable.

Of the three most knowledgeable participants two supported current restrictions and one was in opposition, citing greater infrastructure development as the soundest way forward for improved access. The participants who represented stakeholders with both power and leadership all support the use of permits as acceptable management for risk minimisation. Of participants who represented stakeholders with power but no leadership one tour operator was supportive as a quota maintains wilderness values, whilst AT and the other tour operator were opposed on the grounds it could be increased and at least needs to be justifiable.

The analysis shows a clear division in participant interests and opinions. However unlike management zoning, this division does not follow the traditional boundaries of conservation versus human use. Rather tour operators were divided in opinion, as were academics. Thus the potential for alliances between like minded stakeholders was lessened somewhat. Nevertheless, a value based alliance could form between UTAS, AT, and tour operators to lobby for a review of access restrictions.

Conflict over access was evident from the analysis. Both UTAS and the two opposing tour operators explicitly cited their clear objection to the management approach of PWS, as has AT to a lesser degree. Meanwhile, AAD and research scientists are also affected by access restrictions and this underpins the assumption of a value based conflict between AAD and researchers, and PWS.

Table 5.9: Stakeholder analysis for access to the reserve

Access to the Reserve

Stakeholder Id	Position			Interests & Opinions	Alliances		Conflict			Power & Leadership			Knowledge		
	Support	Neutral	Oppose		Actual	Potential	High	Medium	Low	1	2	3	1	2	3
1	✓			Implement and manage the permit system, determine the allocation of permits, ensure permit conditions are adhered to and maintain a conservation approach to access		TO 7, 9 UTAS AT	AGAD	TO 7, 9 UTAS	AT		✓			✓	
2	✓			As above							✓			✓	
3	✓			Supportive of limited numbers as biosecurity risk therefore remains small							✓		✓		
4			✓	Advocates a more balanced quota system based on the ecological carrying capacity and that allows people who value MI the opportunity to visit it					PWS			✓		✓	
5			✓	Supports improved infrastructure such as more boardwalks, an interpretation center and more access points				PWS					✓		
6				No comment											✓
7			✓	Believes there is a strong case for review of quotas as there is no historical basis for it and numbers are kept too low				PWS	AGAD			✓		✓	
8	✓			Quota system protects the wilderness values by limiting access				PWS	AGAD			✓		✓	
9			✓	MI quota should be consistent with NZ				PWS	AGAD						✓
10				No comment											✓
11	✓			Quota system keeps numbers low, not everyone who wants to go to MI should be able to									✓		
12		✓		Additional income lost to tour operators and PWS, although tour operators can trade permits. Also prevents further environmental impact											
13			✓	An increase should be considered if it does not threaten environmental harm, and is set on carrying capacity and activity. Room for an increase at the Isthmus										✓	

5.8.5 Research

The management policies governing research (table 5.10) are divided into two distinct areas: policies relating to research priorities and policies relating to research as a human activity. Unfortunately, not all participants addressed both areas. Five participants indicated they supported both policy areas, including all four State Government agencies. Three participants were neutral as they did not clearly indicate their position; rather they discussed the relevancy of research, the importance of funding, research opportunities and agenda setting. Four participants were opposed to the policies as they thought management was unnecessary, unsuitable and too bureaucratic.

Of the three most knowledgeable participants, one supported the Plan on the proviso research was adequately funded, one was neutral believing the state should harness the opportunity for research, and one was opposed citing all research as relevant and that it has minimal impact. Of the three participants who represented stakeholders with both power and leadership, all supported research management. Of the three participants who represented stakeholders with power but no leadership, the two tour operators both opposed the policies whilst the AT was supportive of them.

An actual alliance exists through the forum of MIRAG, bringing together PWS, BCB and AAD. This alliance is given mandate through the Plan and intersects State and Commonwealth research priorities. Although stakeholder positions were diverse, there was scope to form a potential resource based alliance between PWS, BCB, UTAS, IAI, tour operators, TPN and AT. Such an alliance would be most useful if AAD leave MI as it would augment authority, resources and knowledge of individual stakeholders to overcome any logistical shortfalls in conducting research, and capitalise on the willingness of students and tourists to participate in research and their willingness to pay for the privilege.

Research is the most prolific human activity on MI to date and any policy directive that restricts research will cause value based conflict between vested interests such as PWS, and research institutions, scientists and AAD. Add to this the unusual situation where AAD have full control of logistical resources for State research and there is also a strong case for resources based conflict between these two parties.

Table 4.10: Stakeholder analysis for research

Research																	
Stakeholder Id	Position			Interests & Opinions	Alliances		Conflict			Power & Leadership			Knowledge		
	Support	Neutral	Oppose		Actual	Potential	High	Medium	Low	1	2	3	1	2	3
1	✓			Ensure research permit conditions are adhered to and scientists taken on board the broader management principles of MI	MIRAG: PWS BCB AGAD	PWS BCB UTAS IASOS IAI AT		Scientists AGAD			✓			✓	
2	✓			As above, also would like to see a more focused approach to research that is directly relevant to MI				UTAS			✓			✓	
3	✓			Research should be encouraged as long as it is appropriately managed and adequately funded							✓		✓		
4	✓			Research should focus on long term monitoring programs that are useful to MI and the wider community, and be managed to minimise human impact								✓		✓	
5			✓	All research is relevant and significant and impacts are minimal as researchers are given adequate training and there is 99% compliance				PWS State Govt.					✓		
6		✓		Research needs to be more accountable if the tax payer is footing the bill											✓
7			✓	The potential for research is limitless, particularly within the marine environment and as a site for monitoring change. Priorities should be set by AGAD as MI should not be part of Tasmania					AGAD			✓		✓	
8			✓	Unique opportunity for pure and applied science yet the type and scope of research is restricted by the Plan and bureaucracy					AGAD			✓		✓	
9	✓			Research should be well thought out to produce a favourably outcome and scientists need to be managed as they have had a significant impact in the past					AGAD						✓
10				No comment											✓
11		✓		Unique research opportunity for the State									✓		
12			✓	Research has not been overly useful to the broader scientific community and it is often repetitive											
13		✓		Future research depends on resources and its potential to generate interest. The State needs to develop its own research agenda through IASOS and UTAS										✓	

5.8.6 Tourism Management

Six participants supported the policies pertaining to tourism management (table 5.11). Two participants held a neutral position on the basis tourism is generally well managed but certain procedures are too excessive and could be scaled back. Five participants opposed the policies, including two tour operators who cited onerous, ad hoc and regimented management that restricts advocacy, does not capitalise on the wealth of knowledge of tour guides, and inappropriately allocates user fees. Other opposing participants believed visitation could be increased with appropriate infrastructure developments.

Of the most knowledgeable participants, QT supported management for biosecurity and UTAS opposed management as too restrictive, resulting in lost income. The participants who represented stakeholders with both power and leadership were all supportive, with PWS maintaining authority for implementation. Participants who represented stakeholders with power but no leadership were divided. AT supported management as appropriate for tourism in its current form. One tour operator thought management was effective, although safety procedures were too onerous and zoning too strict. The other influential tour operator opposed management on the grounds that it restricted advocacy and therefore conservation.

An alliance exists between tour operators through the International Association of Antarctica Tour Operators (IAATO). As a global peak body, IAATO gives a united voice to tour companies operating in the Antarctic. In addition, an accredited member complies with operating procedures consistent with strict conservation management practices. The analysis showed potential for a value based alliance in favour of increasing visitation between tour operators, UTAS, TPN, and supportive academics.

The analysis confirmed high to medium conflict between tour operators and PWS, as the latter clearly dictates the scope and type of activity undertaken by tourism. Low conflict existing between tour operators and AAD as tourism can disrupt station life. PWS conflicts with the State Government due to funding inadequacies, and because the State may wish to capitalise on growing interest from the tourism sector and increase access to MI, thus placing PWS under greater pressure to manage any changes.

Table 5.11: Stakeholder analysis for tourism management

Tourism Management

Stakeholder Id	Position			Interests & Opinions	Alliances		Conflict			Power & Leadership			Knowledge		
	Support	Neutral	Oppose		Actual	Potential	High	Medium	Low	1	2	3	1	2	3
1	✓			Develop and implement a management system based on justifiable quotas and restrictions that minimises impact and risk		TO 7,8,9 UTAS IASOS TPN Sir Guy		State Govt			✓			✓	
2	✓			As above			TO 7,8,9				✓			✓	
3	✓			Support strict management for biosecurity							✓		✓		
4	✓			In its current form, tourism is managed appropriately.	IAATO TO				PWS			✓		✓	
5			✓	Room for expansion in numbers and activities if infrastructure were in place to meet demand, which would increase income if tourists were levied higher									✓		
6			✓	Potential to capitalise on ecotourist dollar if access and infrastructure were improved											✓
7		✓		Well managed overall although safety procedures are too excessive and zoning is too strict				PWS	AGAD			✓		✓	
8			✓	Plan can be interpreted differently by each PWS Officer and at present management restricts advocacy and conservation			PWS		AGAD			✓		✓	
9			✓	Management is too regimented, it insists on guides to accompany tourists yet they often do not have the knowledge of tour guides. Also user fees need to be put into infrastructure.			PWS		AGAD						✓
10	✓			It is appropriately managed with respect to our current understanding of management practices											✓
11	✓			Relatively well managed but there is pressure to increase numbers and allow activities which may be inappropriate									✓		
12		✓		Potential to scale back strict regulations as there is scope for more diverse activities											
13			✓	It is too conservative, visitation could be increased with quarantine and zoning in place and accommodation should be explored										✓	

5.8.7 Public Awareness and Community Support

Support for the policies relating to public awareness and community support (table 5.12) laid down in the Plan was low, with only two participants in favour. Four participants held a neutral position, citing the need to increase community knowledge and understanding through education and the difficulties in achieving this in the current political climate. Six were opposed believing there are better ways to involve the community such as developing a strategy that has definitive outcomes and capitalises on community interests, involving AAD more and creating better access for all beyond point source tourism.

Of the participants who represented stakeholders with both power and leadership two were in favour and one against current management policies. Interestingly there is a split in PWS with officers placing themselves on either end of the spectrum, although in reality the interests of PWS is to implement the policies as much as possible. The participants who represented stakeholders with power but no leadership all opposed the policies.

The Plan itself explicitly refers to an alliance between PWS, AAD, UTAS, TMAG, TRBG tasked with promoting MI to the wider community through their educational facilities. The Plan also refers to an alliance between PWS and AAD to raise awareness on-reserve. In the analysis, one PWS Officer also indicated an alliance with TNPA, NPWAC and WHAC to promote MI. Finally there is the potential for a value based alliance between ASAC and MIRAG to promote the research values of MI.

Although there was general consensus across all participants that much more could be done to raise awareness and promote MI, there was evidence of explicit and value based conflict. PWS is experiencing some conflict with NPWAC and WHAC as neither stakeholder has effectively promoted MI as tasked. PWS is also facing value based conflict with the two tour operators who disagree with their management approach, and AAD as speculation regarding its intentions continues unabated.

Table 5.12: Stakeholder analysis for public awareness and community support

Public Awareness and Community Support

Stakeholder Id	Position			Interests & Opinions	Alliances		Conflict			Power & Leadership			Knowledge		
	Support	Neutral	Oppose		Actual	Potential	High	Medium	Low	1	2	3	1	2	3
1	✓			Promote MI and raise awareness in the community through NPWAC and WHAC	PWS TNPA NPWAC WHAC			AGAD	NPWAC WHAC		✓			✓	
2			✓	Determine the outcome from promoting MI first and then pursue an appropriate way forward that would incorporate the many stories of MI which are not being told					TO 7,8		✓			✓	
3	✓			Support the use of existing platforms such as midwinter festival							✓		✓		
4			✓	Support the development of a strategy that would capitalise on community interest through a range of formats beyond what is being done at present		MIRAG ASAC						✓		✓	
5			✓	Public perception in Tas is low, but there needs to be a lot more. Current issues needs to be resolved and better access to all, not just point source tourism	PWS TMAG TRBG								✓		
6		✓		Events such as the midwinter festival and Sub-Antarctic Forum elevated MI but it is difficult to raise awareness in the current political / economic climate											✓
7			✓	Need to push the rabbit problem further and the AGAD could use its resources to highlight MI but it has no mandate for this					PWS			✓		✓	
8			✓	Plan is prescriptive and the community has been sidelined. A multidisciplinary dynamic approach for involving the community would be more effective					PWS			✓		✓	
9		✓		There are many people campaigning for MI but connections between them are loose. More education is needed to engage the community											✓
10		✓		Knowledge is the key to getting people more involved and there is a need for better education and understanding in the wider community but this isn't happening.											✓
11			✓	There is a need for greater Cth involvement beyond the AGAD.									✓		
12				No comment											
13		✓		The wider community needs to become more aware of MI's values and of developments as they occur, but until the AGAD makes its intentions known it will be difficult to engage the community										✓	

5.8.8 Consultation

Participants overwhelmingly opposed the policies relating to consultation (table 5.13) in the Plan, including the management authority tasked with implementation. Interestingly few participants were aware of the forums for consultation outlined in the Plan as neither option has been given the go ahead since the plan came into effect. Eight participants indicated that an alternative forum is necessary beyond what is available now, which would define stakeholders, be inclusive, strategic, independent, and coordinate and lead on specific issues.

There are a number of forums available now, which were included in the analysis as actual alliances. Although consensus at these forums may not be achieved, they do provide access and the opportunity to raise issues between stakeholders. These forums include the Quarantine Advisory Group, IAATO, MIRAG, and TPN, which has a membership of 53 including AAD, BoM, AT, QT, TMAG and participating tour operators. Finally, the International Sub-Antarctic Forum held in Hobart in July 2006 bought together the international community to discuss the issues facing the sub-Antarctic including AAD, PWS and UTAS.

Explicit conflict regarding consultation processes between stakeholders is rife. A number of participants explicitly referred to conflict between PWS and AAD at the upper level and at the lower level once. Tour operators and UTAS are also in conflict with PWS as it claimed they had been excluded from management decisions. AT is in conflict with PWS due to PWS lack of leadership in bringing stakeholders together. PWS is in conflict with the majority of key players as it does not possess the resources to undertake proper consultation.

Table 5.13: Stakeholder analysis for consultation

Consultation

Stakeholder Id	Position			Interests & Opinions	Alliances		Conflict			Power & Leadership			Knowledge		
	Support	Neutral	Oppose		Actual	Potential	High	Medium	Low	1	2	3	1	2	3
1			✓	Continue to liaise at the operational level and respond to calls for a higher level of consultation if absolutely necessary	Quarantine Group: PWS Customs BCB QT AGAD DPIW	All Stakeholders	AGAD (upper level)	TO 7,8	AGAD (lower level)		✓			✓	
2			✓	As above. Unsure of any plans to implement either forum outlined in the Plan. MIRAG and IAATO provide forums			AT UTAS				✓			✓	
3			✓	A central coordinating independent body is necessary to consult with various stakeholders on issues relevant to them							✓		✓		
4			✓	Leadership is needed from PWS to bring stakeholders together for round table discussions to resolve outstanding issues, followed by a joint management approach			PWS					✓		✓	
5			✓	Any forum created under the Plan will still sit inside the PWS, an independent committee is necessary	TPN: Antarctic Sector - research & business AGAD BoM AT QT TMAG TO 7,8,9		PWS						✓		
6			✓	Consultation is adequate at present without a new forum. TPN quarterly meetings are a forum for consultation											✓
7			✓	Advocates a more inclusive approach of open dialogue regarding Govt. policies relating to tourism to prevent in-house arbitrary decisions by PWS				PWS				✓		✓	
8			✓	Joint management approach with an inclusive committee which sets priorities collectively would improve consultation				PWS				✓		✓	
9			✓	The TPN provides a good forum for consultation, although the AGAD haven't turned up for several years and PWS don't participate											✓
10			✓	Stakeholder relations highlight the dynamics of federalism and the need to develop clearer lines between stakeholders, particularly tourism	IAATO: TO 7,8,9		Other Conflicts:								✓
11			✓	Supports a broadly agreed policy framework for consultation, which defines the credibility of stakeholders and their moral argument, and sets the parameters for wider consultation including fishing, tourism and NGOs.	Sub-Antarctic Forum: PWS AGAD UTAS International Antarctic Community		State Govt - Cth Govt. BoM - AGAD Tourism / fishing - conservation / science						✓		
12			✓	An independent working group would bring all stakeholders together and may force the Cth to make a decision on MI's future											
13			✓	Stakeholders need to be defined first. Tasmania is the legitimate stakeholder but MI is informally dominated by AGAD										✓	

5.9 Stakeholder analysis of MI Issues

5.9.1 AAD reallocation of resources

As the management authority for AAP, AAD has responded to a shift in national research priorities by announcing its intention to withdraw from MI at the beginning of 2006. Since then, AAD have yet to confirm any further details of their intentions. As a key stakeholder with considerable logistical resources, AAD has the capacity to influence management decisions and practices, and its reticence in making its intentions clear has placed future human use on MI into uncertainty.

Participants were asked how they viewed current logistical arrangements and how any future shortfalls could be overcome if AAD does withdraw from MI. Participant responses produced two concurrent themes: the obligation of AAD to other stakeholders, and alternative arrangements for logistics. The results are presented in table 5.14.

Seven participants indicated they would support a withdrawal by AAD on the basis that it has right to determine how it allocated its resources, that it was inappropriate for the State to be reliant on AAD for logistics, and that there would be more opportunity to enter into alternative arrangements and build a sustainable and independent logistics stream if AAD were to withdraw. Three supporting participants also held that the State has a responsibility to provide policy directives and organise alternative logistical arrangements. Four participants held a neutral position whilst one was opposed believing AAD would provide valuable logistics during the implementation of the eradication program.

Of the participants who represented stakeholders with power and leadership one PWS Officer was opposed, the other was neutral, and QT supportive. Of the participants who represented stakeholders with power but no capacity to lead one tour operator was supportive, and AT and the other tour operator both held a neutral position. Interestingly, both tour operators who command logistic resources indicated that tourism could not fully provide logistics in the absence of AAD as it would be disruptive, expensive and not feasible or profitable for them.

An actual alliance was explicitly referred to by participants and in the literature to a create logistics stream between Commonwealth and State Government agencies and other providers, primarily tour operators. Four participants suggested a potential alliance between interested stakeholders who have the capacity to contribute resources and/or the capacity to provide logistical support. This would provide an independent means of getting people down to MI and back as required without relying on AAD.

It was anticipated that conflict would be extensive over this issue however this was not the case. Two participants made it clear that AAD needed to state its intentions regarding MI thus indicating low conflict until this occurs. PWS and AAD are in high conflict in the face of uncertainty that the situation has created. Other explicit conflicts exist between BoM and AAD regarding organisational arrangements and between AAD and the Tasmanian Government as the latter faces loosing substantial Commonwealth assistance.

Table 5.14: Stakeholder analysis for AGAD reallocation of resources

AGAD reallocation of resources

Stakeholder Id	Position			Interests & Opinions	Alliances		Conflict			Power & Leadership		
	Support	Neutral	Oppose		Actual	Potential	High	Medium	Low	1	2	3
1			✓	AGAD to remain on MI for the next 10yrs to assist in the provision of logistics for the eradication program and continued support for PWS activities	TO AGAD PWS BCB		AGAD				✓	
2		✓		Uncertain, AGAD need to make their intentions clear							✓	
3		✓		The AGAD will make a decision based on their priorities and Tas Govt. need to move beyond this or management will suffer							✓	
4		✓		The AGAD needs to make their position clear and remaining stakeholders need to act cooperatively to overcome issues as they arise		PWS BCB UTAS IAI Research TPN TO			AGAD			✓
5	✓			AGAD are pulling out is because they can no longer work with the PWS as they make ad hoc decisions and implement them without notice which makes it difficult to conduct research								
6	✓			There are a lot of people in Tas who have the capacity to provide logistical support but the PWS need to put the call out there								
7	✓			It is inappropriate for the State to be reliant on the Cth for logistics and this issue needs to be resolved. Tourism can assist with logistics in part								✓
8		✓		The current model is restricting as for short term research as Aurora schedules are limiting. Tourism can assist but it is not feasible or profitable to become sole logistic providers								✓
9		✓		Tourism has little capacity for logistic provision as it would disrupt itineraries and it is expensive.								
10				No comment								
11	✓			AGAD priorities are on HIMI and Antarctic Continent and logistics would not be that difficult to arrange as all stakeholders need to get down there and back			Other Conflicts:					
12	✓			If AGAD is out of the equation there is more scope for partnerships between stakeholders to meet logistical needs			BoM – AGAD					
13	✓			Tas must be able to service MI through a consortium of interested parties who have to capacity to contribute resources			AGAD - Tas. Govt.					

5.9.2 Eradication program funds battle

The eradication of rabbits and rodents is one of the key desired outcomes of the MINR Plan and an eradication plan has been completed and released. However, the implementation of the eradication program beyond the planning stages is increasingly in doubt as a funding package has not yet been arranged. Central to this issue is the battle between the State and Commonwealth about who should pay for the program, a common argument in a federal system such as Australia.

Participants were asked a series of questions relating to funding arrangements for MI and how conflicts could be resolved. Participants deliberated on the boundaries of State and Commonwealth responsibility and this formed the basis for the position spectrum (table 5.15). One participant believed the State had an obligation to source and administer funding for MI. Six participants were neutral and two have specifically indicated both levels of government needed to meet their obligations. Whilst four participants thought the Commonwealth should provide funding with two of the four indicating MI should be ceded to the Commonwealth.

Interestingly, the three participants who represented State Government agencies with both power and leadership all held a neutral position with the interests of PWS to implement and complete the eradication program regardless of where the funding comes from, and QT to advise on quarantine matters related to the program. Of the three participants who represented stakeholders with power but no capacity to lead, AT would like to see the eradication program completed at the earliest opportunity and both tour operators indicated the Commonwealth must ensure MI is protected.

A steering committee assisted the development of the eradication program and thus forms an actual alliance between key stakeholders including government agencies at the State and Commonwealth level, research institutions (UTAS and CSIRO) and international expertise from New Zealand and South Africa. Furthermore, there is evidence of an alliance between tour operators, IAATO and WWF as a lobby group to engender action.

An alliance could potentially form through a joint management approach that includes key stakeholders. Three participants indicated this approach may assist in resolving the issue as it could clearly delineate financial responsibility and assist in drawing together alternative sources of funding.

The analysis highlights significant conflict centred on the State Government. UTAS indicated MI is suffering from State neglect and all three tour operators are united in their belief that the Commonwealth needs to step in, with two indicating that MI should be ceded to the Commonwealth. PWS is in conflict with both levels of government as a funding package for the eradication program is still pending. Finally the Commonwealth and State Governments are in conflict with each other as they battle over who has the greatest obligation and should fund the program.

Table 5.15: Stakeholder analysis for the eradication program and funding package

Eradication program and funding – who should pay?												
Participant ID	Position			Interests & Opinions	Alliances		Conflict			Power & Leadership		
	TAS	Neutral	Cth		Actual	Potential	High	Medium	Low	1	2	3
1		✓		To see the eradication of rabbits and rodents right through by any means possible that doesn't require a big injection of money by the PWS	Steering Committee: PWS BCB AGAD DPIW UTAS NZ DoC CSIRO		Cth Govt.				✓	
2		✓		To see the eradication of rabbits and rodents right through once appropriate funding is allocated			State Govt.				✓	
3		✓		To ensure eradication program complies with biosecurity if it goes ahead							✓	
4		✓		Supports eradication at the earliest opportunity and a joint management approach to resolving conflict over funding								✓
5		✓		This is an issue where MI is suffering from State neglect and funding conflicts should be resolved through an independent management authority which includes key stakeholders		AT UTAS Academic			State Govt			
6		✓		This issue of funding would have been resolved in both parties clearly delineated their intentions in the first instance	Lobby group: WWF TO IAATO							
7			✓	The State must relinquish control to the Cth for this issue to be resolved					State Govt			✓
8			✓	The Cth needs to ensure MI is protected as the State clearly has other priorities					State Govt			✓
9			✓	If the State cant fund MI it should cede it to the Cth					State Govt			
10		✓		The Cth has responsibility for international protection under the constitution and should meet them. The state has an obligation to meet its responsibilities and if it cant afford it then it must first act in good faith before the Cth will step in								
11			✓	The Cth should provide funding as it does for every other WHA								
12		✓		Should be 50/50 split as MI is a Tas Nat Park and a WHA			Other Conflicts:					
13	✓			Tas needs to assume responsibility for MI by sourcing and administering funding internally and from other sources			Cth Govt. - State Govt.					

5.9.3 Jurisdictional arrangements

Participants were asked whether they thought different jurisdictional arrangements would provide MI with better management outcomes (table 5.16). Three participants indicated that MI is best managed by the State as it would not necessarily receive a higher priority under the Commonwealth. Six participants held a neutral position with one asserting joint management as the way forward, one maintaining responsibility must be based on the proportion of use, and four uncertain. Five participants thought it would be better off with the Commonwealth as it would probably be managed as an external territory, would have access to greater resources and may play a greater role in AAP.

Of the participants who represented stakeholders with both power and leadership, one PWS Officer and QT were supportive of MI staying under State jurisdiction and the other PWS Officer opposed, particularly if PWS budget is reduced in 2007. Of the participants who represented stakeholders with power but not capacity to lead, AT was supportive of joint management between State and Commonwealth, whilst both tour operators thought the Commonwealth should take full control of MI.

Debate over jurisdictional arrangements for MI is relatively new and stakeholder opinions were diverse. As such no actual alliances were explicitly referred to. A potential value based alliance may form between tour operators, WWF and IAATO as a lobby group for more effective management.

Conflict regarding this issue is mixed. The tour operators all indicated their wish to see MI managed under the Commonwealth however their ability to influence this particular issue is relatively minor. An assumption of conflict could be made between tour operators and PWS as a result of poorly perceived management practices from the latter. The most profuse conflict exists between the State and the Commonwealth, which is largely driven by the funding battle over the eradication plan. As far as jurisdiction for MI is concerned neither the State nor Commonwealth have revealed their inclination.

Table 5.16: Stakeholder analysis for jurisdictional arrangements

Jurisdictional arrangements – should MI remain with Tasmania?												
Participant ID	Position			Interests & Opinions	Alliances		Conflict			Power & Leadership		
	Support	Neutral	Oppose		Actual	Potential	High	Medium	Low	1	2	3
1			✓	It would be a shame to loose it but MI may be better under the Cth, particularly if PWS take another hit in this years budget		Lobby Group: IAATO TO WWF					✓	
2	✓			The Cth may not fund the eradication program either and management under a different agency could change dramatically							✓	
3	✓			MI would become a little fish in a big sea of higher level priorities of Aus. Nat Parks and AQIS							✓	
4		✓		Joint management is a better option as it would provide a clean slate and address WH issues								✓
5		✓		Difficult to say if MI would be any better off under the Cth, although it would probably play a larger role in AAP								
6		✓		Funding should be based on the proportion of use (use and enjoy) and what percentage of benefits is derived from that								
7			✓	It should be an external territory. The legacy of MI as Tasmanian gets in the way of clear sighted appraisal for long term research								✓
8			✓	If Mi were to be managed like HIMI then it would be better off with the Cth								✓
9			✓	As above. Aus. Parks could liaise with DoC to manage co-jointly as a complete ecological system with NZ islands								
10		✓		Cth clearly has the resources though unsure if they would want it or if the State would willing cede it								
11			✓	If MI were an external territory it may play a larger role in AAP to assert sovereignty, like HIMI and have more resources								
12		✓		Nobody wants it. A consortium from Utas cares otherwise it could be sold to the highest bidder.								
13	✓			Tasmania has got to repatriate MI as it a long way from Canberra and the Cth may not do anything if it assumes control anyway								

5.9.4 UTAS field camp proposal

Participants were asked their views on the proposal put forward by UTAS to establish a field camp on MI for postgraduate research (table 5.17). Ten participants supported the proposal, with two participants conditionally supportive and one opposed. The general consensus between supportive participants was that the proposal would benefit MI, UTAS and Tasmania by providing unique educational experiences and contributing to conservation. In fact, the one participant opposing the proposal also explicitly recognises the potential benefits to UTAS and Tasmania.

Of the participants who represented stakeholders with both power and leadership QT was supportive stating the proposal may help keep MI under the State, whilst PWS Officers were split. One supportive so long as it meets the requirements of the MINR Plan and the other was opposed on the belief that it would be a vehicle for greater human use and a provider of low quality science, which was something to be avoided. Of the participants who represented stakeholders with power but no capacity to lead, all three were supportive.

The proposal is still in its infancy with little detail available to the author regarding where and how logistics and funding will be sourced. This is a common theme in participant responses, whereby support is given in principle without a great deal of knowledge of the particulars of the proposal. Whilst UTAS is in alliance with IAI to develop and coordinate Antarctic tertiary courses, there is the potential to expand this to include stakeholders who support the proposal and have the capacity to provide logistics.

The proposal has been stymied somewhat by the current State Government and as such high explicit conflict exists between UTAS and the State. In addition, UTAS is in medium conflict with PWS as the MINR Plan may prevent the proposal from proceeding. Also there is some value based conflict between UTAS and PWS regarding the appropriateness of the proposal. Finally there is low conflict between UTAS and AAD as the former has indicated the proposal cannot proceed until the latter makes their intentions regarding MI clear.

Table 5.17: Stakeholder analysis for the UTAS proposal

UTAS Field Camp

Stakeholder Id	Position			Interests & Opinions	Alliances		Conflict			Power & Leadership		
	Support	Neutral	Oppose		Actual	Potential	High	Medium	Low	1	2	3
1		✓		Supportive as long as it meets the requirements of the MINR Plan		UTAS IASOS IAI TPN AT TO 7,8,9 QT		UTAS IAI			✓	
2			✓	Recognising that the proposal would provide a unique experience for Tasmania and UTAS, human visitation should be kept to a minimum and the establishment of a vehicle that would by nature produce low quality science should be prevented							✓	
3	✓			Proposal may help keep MI under State Jurisdiction							✓	
4	✓			Strongly supports proposal so long as UTAS can show it is feasible and where they intend to get their resources from	UTAS IAI							✓
5	✓			It is a wonderful opportunity for UTAS to become more involved with MI on a practical level and for students to gain experience and develop skills and expertise, and to contribute to ongoing monitoring and research programs.				PWS	AGAD			
6	✓			It would be a huge draw card for UTAS and would advance its position in terms of the pursuit of knowledge, which is its core business, but it would be limited by access and infrastructure.								
7	✓			Wonderful idea that would provide a great education inspiring educational platform and tourism could assist with logistics								✓
8	✓			It has exciting possibilities and it would benefit MI and the whole ecosystem including the NZ sub-Antarctic Islands if the bureaucratic and logistical issues are sorted out								✓
9	✓			It would benefit MI by putting money towards it								
10	✓			No comment								
11		✓		Accept it in principle so long as it was high grade research with a collaborative international focus and not play time								
12	✓			Gives students the unique opportunity to study and experience the island first hand			Other Conflicts:					
13	✓			Strongly support the proposal as it would promote UTAS, IASOS, IAI and Tasmania			UTAS - State Govt.					

5.10 Future Prospects

Participants were asked to deliberate on what they believed the future had in store for MI in the next five to ten years and what it would take to achieve this. The majority of stakeholders indicated more than one possibility in the face of current uncertainty; what most likely was going to occur and what could possibly occur if the conditions were favourable. The responses are recorded in table 5.18.

Four participants indicated the status quo was most likely going to continue until something happened to shift the inertia in current management practices. Four participants did not believe it is possible to speculate on what the future may hold for MI until AAD made its intentions clear and the politics surrounding funding arrangements for the eradication program was settled.

Interestingly only one participant thought AAD would remain on MI, although several indicated it would be unlikely that it would withdraw entirely. Meanwhile three participants thought it would leave and that interest in scientific research would decline. Two participants thought MI would be given to the Commonwealth for management purposes. Whereas, three participants assumed MI would remain under state control, although two believed State apathy towards MI would continue.

Other issues that were raised include greater interest from the tourism sector in the future that would place management under greater pressure to appropriately mitigate potential impact, and the risk of MI being placed on the UNESCO World Heritage List in Danger if the degradation from rabbits and rodents continued unabated.

The possibilities for MI are endless when one is not bound by the constraints of politics and fiscal realities. Four participants indicated they hoped the eradication program would be seen through to completion with one explicitly stating that this was the one thing that humanity could do for MI. Three participants referred to the UTAS proposal as a possibility.

Greater tourism pressure for MI was also present, in addition to speculation regarding the mineral resources adjacent to MI. Two participants hoped more effective and

inclusive consultation would feature in the future, whilst one indicated that MI would be better off under the Commonwealth if a geographical management approach were perused between Australia and New Zealand. Finally, one participant thought a bigger role for philanthropy might be the best way forward.

Table 5.18: Stakeholder perceptions on the future for MI

Participant ID	Future Prospects: Actual	Future Prospects: Possible
1	MI will be given to Cth. AAD will stay. Funding for the eradication program needs to be resolved before the next state election, the public will demand it.	The eradication program seen right the way through and then human habitation can be limited to short term visits by tourist ships and scientists.
2	Uncertain as MI is on a cusp and it is difficult to speculate.	The eradication program is the one thing that humans could do that would actually benefit MI.
3	MI's future will be determined on how the politics plays out between the State and Cth.	Huge potential for scientific tourism and research, particularly on climate change. Greater consultation between the State and Cth is needed to capitalise on this.
4		MI has two possible futures: 1, that it will continue on its path of uncertainty, under funding, lack of resources, bogged down in political quagmire, little traction in terms of space on the political agenda, continued degradation, more conflict between stakeholders, less people visiting, UTAS not getting access, rundown infrastructure, and frustrated tour operators, or 2. MI could have a common vision that will eradication alien species, remove old buildings and coordinate logistics.
5	Rabbits and erosion will continue. UNESCO will take away the WHA status, Paula Wriedt will do nothing, there will be no money for resources and nothing will happen for three to four years until the Cth Govt. intervenes	Another Dick Smith with outside interests could come in and save it
6	The tug of war will continue. It will remain a halfway point to Antarctica for shipborne tourism, and it will become science'd out and research will leave	Utas proposal may get off the ground
7	Until the State and Cth issues are resolved the outcome for MI is uncertain	
8	MI will remain the same under the current Plan	It would be good if tourism could become an equal stakeholder and take part in decision making processes
9	The status quo will remain, Tas Govt. doesn't care and AAD wants out.	If you could give MI to the Cth to manage then it would be able to combine its resources with DoC to get a charter ship to service all the sub-Antarctic Islands. Logistically it is difficult for both countries so the only way to overcome it is to combine resources and increase capacity that way
10	There will be greater pressure form the tourism sector for greater access and activities which will place greater pressure on management	If mining were to take place then this would provide significant economic benefits that the Cth and State could negotiate over. An application for continental shelf is currently under UNCLOS
11	There will probably be a winding up of AAD operations and interest in MI from the Antarctic community will decline.	A new government may come in with a different agenda. There may be increasing pressure from tourism as the peninsula becomes more crowded but then the Airlink may alleviate that as it becomes possible to fly to the continent from anywhere in the world in a few days.
12	No comment	
13	Eradication of rabbits, rats and mice and an increase in protective infrastructure such as hardened paths for visitors and scientists.	UTAS proposal and tourism developments may be a possibility

5.11 Summary

MI is governed by a complex management regime and has a multitude of stakeholders that are able to influence, or be influenced, by that regime. The aim of this research is to determine how effective, relevant and feasible management policies pertaining to human use on MI are in the eyes of its key stakeholders. Thus a stakeholder analysis was conducted to identify key stakeholders, determine their level of power and capacity to lead, their knowledge and values.

Unfortunately, several key stakeholders were unable, or unwilling, to participate. Nevertheless, the stakeholders who did participate provided a breadth of views and opinions that intersected traditional value based perceptions and laid the foundation for an interesting and sound analysis. The analysis covered the specific policies relating to all human use management in the MINR plan, in addition to the four topical issues that currently have the capacity to influence management decisions and practices and the future for MI.

6. Discussion and Conclusion

6.1 Introduction

Stakeholders who are associated with MI represent a diverse range of interests and actively seek to further their interests even if it is to the detriment of transparent, inclusive and effective management decisions and practices. The ability of stakeholders to pursue their interests is determined by their level of power and capacity to lead, the legitimacy of their claim and the degree of support they are able to acquire for concerns that are of an urgent nature.

This chapter addresses the research aims by discussing the findings from the key informant interviews in context with the results from the stakeholder analysis and the literature review. The importance of stakeholders is evaluated to determine their influence over management decisions and practices. The relevancy, feasibility and effectiveness of the policies pertaining to the conservation of reserve values and management of human use laid down in the MINR Plan are discussed in terms of implementation. This is followed by a review of how the four topical issues affect management outcomes. Finally, this chapter reflects on the opportunities, constraints and future prospects for MI, focusing on the complex interactions that take place between stakeholders and how interchangeable these interactions are between issues.

6.2 Stakeholder importance

The importance of stakeholders determined by their claim, useable resources and influence (Weible, 2006) and their determination in pursuing their interests. The various claims made on MI are a result of its management regime, historical and contemporary human use and the environmental movement. These claims are representative of a diverse range of interests including conservation management, scientific research, education, biosecurity, economic development, tourism, local business opportunities and economic development, and politics.

Not all claims have equal footing as each has a different moral argument. According to Hemmings (pers. comm. 2007) this moral argument needs to be given greater consideration as not all stakeholders should be comparable. Green (pers. comm. 2007) agreed that not all stakeholders were equivalent, but maintained that stakeholders must first be formally identified before their importance can be deliberated.

The process of identification utilised in this research was based on a model by Mitchell *et al.* (1997), whereby stakeholders were identified by their possession of one or more of three attributes: power, legitimacy and urgency. The results were presented in pictorial format with explanatory notes justifying the position of each stakeholder in the previous chapter (figure 5.1 and box 5.1).

The importance of stakeholders in relation to each other is established on the assumption that stakeholders have proportionally greater influence and are therefore more important with the more attributes they possess. Mitchell *et al.* (1997) categorised stakeholders on the basis of the number of attributes in their possession as definitive, expectant or latent. Thus, definitive stakeholders are of high importance, expectant stakeholders are of medium importance, and latent stakeholders are of low importance.

This assumption is reasonable in that it captures MI's stakeholders into three distinct groupings based on their possession of the above attributes. However, it fails to consider the complexities of stakeholder interrelations or the specific reason why a particular attribute was ascribed. In particular, it does not differentiate the level of power or the capacity of a stakeholder to lead on an issue. For one stakeholder, this failure has inaccurately categorised its level of importance.

AAD has been ascribed power and urgency and was identified as an expectant stakeholder and further categorised as dangerous. AAD does not have a legitimate claim over MI and is therefore precluded the status of definitive stakeholder, yet there are compelling reasons why this Commonwealth government agency should be considered a stakeholder of high importance.

AAD does not have a legitimate claim over MI as there was no contractual agreement set up between the Commonwealth and State when the station was established in 1948,

nor has there been any formalisation of an agreement since then. Furthermore, AAD has significant resources at its disposal including the only public sector supply vessel and ownership of the station, and the State relies heavily on it to subsidize its activities (Reid, pers. comm. 2007a).

By possessing significantly more resources than the State the Commonwealth, through AAD, has been able to exert significant influence over the management of MI. According the Green (pers. comm. 2007) the Commonwealth informally dominates MI as there is no legislation or contract dictating either party's rights or responsibilities. With no paucity of paperwork to delineate the intentions of use, AAD has been able to exert its will and demand a position of high importance without any legitimacy to its claim.

Apart from AAD, other stakeholders have been categorised in accordance with the appropriate level of importance through the identification process. Although, understanding how exactly stakeholders interrelate with each other requires a more detailed discussion of their specific circumstances and the specific context on which their priorities and interests are based. Stakeholder relations are incorporated into the next two sections thus allowing the discussion to be issue specific.

6.3 Stakeholder perspectives of the MINR Plan

This section discusses the effectiveness, relevancy and feasibility of the MINR Plan in its implementation from the perspective of stakeholders. PWS is central to the management of MI and the implementation of the Plan in particular. It holds a position of high importance from the analysis and is a definitive stakeholder as the management authority. The ability of PWS to fully implement the Plan has been weakened by chronic under funding (Reid, pers. comm. 2007a; Springer, pers. comm. 2007). This issue resonates within stakeholder relations and in every aspect of management, and it undermines consultation between PWS and other stakeholders.

The Plan has an implementation schedule attached as an appendix. It lists the major actions of the Plan, their priority and who is responsible for their implementation. These actions relate to MI's values, historic heritage, tracks and structures, marine issues,

tourism, quarantine, research and monitoring, AAD and other issues including a review (scheduled for 2008) and consultation (PWS, 2006a). As an appendix the schedule is not binding, rather it is used as a guide to evaluate and monitor implementation and management in general.

6.3.1 Alien species management

The legacy issues of feral pests currently facing MI and the eradication program for rabbits and rodents, which has been developed by PWS and BCB but not yet implemented, dominate stakeholder perceptions for alien species management. The successful completion of the eradication program is one of the highest priorities in the implementation schedule and it is a key desired outcome in the Plan (PWS, 2006a). Failure to implement the eradication program stems from the politicisation of the funding package, which is dealt with in detail further on.

The relevancy of alien species management received a mixed response from participants. The policies fail to adequately address the effect that climate change is having on species establishment, or future threats including genetically modified organisms and nanotechnology. Hemmings (pers. comm. 2007) believed the failure to address future threats was a significant flaw as the Plan's vision statement is for 50 years hence and it is a probable that these threats will be a global issue well within that time frame.

The effectiveness of alien species management was also called into question. Past eradication programs have not appeared to take into account the impact that eradication has on other feral pest populations. The eradication of feral cats, for example, has been held partly responsible for the recent explosion in rabbit numbers (PWS & BCB, 2007). A comprehensive approach that incorporates a better understanding of species interactions is therefore needed to ensure effective management and/or eradication of one species does not pave the way for the sudden increase in another (Galbraith, pers. comm. 2007).

BCB and PWS are important stakeholders as both are tasked with the development and implementation of pest eradication programs. However, both agencies are limited by the fiscal realities of government appropriations and departmental allocations, and/or special funding arrangements through the Commonwealth. McMinn (pers. comm. 2007) argued that the greatest threat to MI was from State neglect in not assuring effective pest management. Expectant and latent stakeholders, including tour operators and environmental NGOs, have voiced concern over the lack of State support but have little influence in the matter.

6.3.2 Quarantine

The quarantine measures outlined in the Plan have the general support of participants. Measures have been tightened up recently, with AAD initiating a range of new procedures with respect to cargo, stores and personnel at departure and arrival points and enroute (Potter, 2006). Although principally a self-regulating system, both Reid (pers. comm. 2007a) and Springer (pers. comm. 2007) maintained quarantine measures on MI have never been so thorough.

Insufficient compliance and enforcement, and ineffectual incident management may undermine the effectiveness of quarantine measures. Reid (pers. comm. 2007a) argued compliance was high with a designated environmental officer onboard every visiting ship and the provision of training and equipment, although conceded that it was carried out grudgingly by a minority of station personnel.

Mortimer (pers. comm. 2007) declared compliance was high on tourist vessels as most operators were members of IAATO and were subject to the strict regulations of this organisation, however, he admitted that there was a risk that a non-IAATO member who does not have a good understanding of quarantine may make an appearance. The selection criteria outlined in the Tourism Guidelines requires some form of accreditation but is not specific to an organisation or scheme (PWS, 2006b). Even so, Jabour (pers. comm. 2007) believed the capacity and interest of operators in implementing quarantine varied greatly regardless of accreditation.

Enforcement is an issue in any area that is isolated and remote. With PWS officer/s and station personnel onsite it is relatively easy to restrict access for non-compliance, particularly for structured visits such as tourism and AAD resupply. The most prevalent threat is from transient visitors such as fishing vessels who seek shelter from bad weather. According to Reid (pers. comm. 2007b) they may not know or understand quarantine regulations and if an incident were to occur it may not be reported, or if it is, it may be difficult to follow up.

Quarantine measures for MI are not as stringent as they are on New Zealand's sub-Antarctic islands. Several participants indicated that a similar approach might be more appropriate (Mortimer pers. comm. 2007; Jabour pers. comm. 2007), whereby a representative from government accompanies every vessel and briefs passengers and crew on quarantine. The fact that New Zealand does not have a permanent station on any of its islands and is unable to enforce measures onsite is the principal argument against it. In addition, this approach would not mitigate the real threat posed from transient visitors.

PWS is tasked with the implementation of measures set out in the Plan and Quarantine Tasmania with federal quarantine requirements. Both are responsible for compliance, enforcement and incident management. AAD and tour operators also play a significant role in this largely self-regulatory system and are important to the ongoing effectiveness of quarantine measures. A number of State and Commonwealth government agencies have recently come together to form a quarantine advisory group for the eradication program on MI (Reid, pers. comm. 2007b), thus bringing together relevant stakeholders to discuss quarantine issues specifically.

6.3.3 Management zoning

Management zoning produced a divided response from participants with the emergence of two strong themes in the results. In the context of conservation management, it is an approach that reconciles competing interests (Green, pers. comm. 2007; Hemmings, per.com. 2007). It recognises that some areas are of higher value than others and determines what activities are acceptable. Jabour (pers. comm. 2007) maintained it was

particularly useful for site specific management as a precautionary approach for mitigating risk when the carrying capacity is not known.

In the context of human use, zoning on MI is considered too onerous and regimented. A number of participants are in consensus that more flexibility is needed in the application for zoning, particularly for tourism (Mortimer, pers.com, 2007; Russ, pers. comm. 2007). The participating tour operators and guides all support more flexible zoning for tourism that would give tourists the opportunity to walk up to the plateau. The risk to safety for visitors is slim and track hardening may not be necessary as numbers would be kept low by inclement weather and the fitness of passengers.

Galbraith (pers. comm. 2007) believed the rigid approach to zoning was unjustified as people have been walking all over MI for centuries. Ledingham (pers. comm. 2007) was in agreement as station personnel regularly walk tracks, including Wireless Hill which PWS claim is unstable. PWS may well have a case for refusing access to the plateau as the boardwalk to the penguin rookery at Sandy Bay is currently being removed due to soil instability caused by grazing rabbits (Lawson, pers. comm. 2007). Liability may become an issue if PWS knowingly let commercial visitors use tracks under these conditions regardless of the insurance arrangements of operators and tourists.

Management zoning also impinges on station personnel and researchers. According to McMinn (pers. comm. 2007) zoning has been random, ad hoc and poorly regulated as PWS abuse their power and impose zones at short notice, making it difficult to conduct research. AAD has set its own station limits that do not match the boundaries of zone A (PWS, 2006a), indicating they may be dissatisfied with PWS approach to management. If poorly implemented zoning adversely impacts on research activities and may be a contributing factor to AAD withdrawal from MI.

The definitive stakeholder in this case is PWS as they implement and manage zones on MI to determine what activities can take place where and to ensure the overall conservation of its values. It appears as though PWS is unaware that other stakeholders are unhappy with the current application or is unwilling to address these concerns. The influence of AAD for greater flexibility in zoning for research is limited to its role in MIRAG. Expectant stakeholders such as tour operators are finding their

wishes are not being taken into account. As a result, conflict between PWS and stakeholders who undertake activities on MI is high.

6.3.4 Access to the reserve

Access to MI is determined through a permit system including an annual quota for tourist visits. This system is managed by PWS and every visitor, regardless of their intentions or the agency they are with, must acquire a permit to gain access. This gives PWS the opportunity to brief all visitors on minimal impact behaviour and meet quarantine requirements (PWS, 2006a). Whilst stakeholders appear to support the permit system, there is some discontent regarding limits in general and quotas for tourism in particular.

Access is closely related to zoning. The MINR Plan sets the maximum number of personnel allowed overnight on MI at 80 with 60 at the Isthmus and 20 in the field, and only during resupply. Green (pers. comm. 2007) believed this number could be increased considerably at the Isthmus without much risk of further ecological impact as he likened the station to a 'farm', although he clarified any increase would need to be managed through appropriate and justifiable zoning based on science to ensure additional impact in mitigated.

An increase in the number of people staying overnight on MI would require essential services such as water, sewage, food and electricity, would therefore depend on the carrying capacity of the infrastructure already in place (Lawson, pers. comm. 2007). The station buildings on MI are old, often contain asbestos and are in need to maintenance. According to Ledingham (pers. comm. 2007) AAD intended to remove some buildings in 1977 but this still hasn't occurred, and building maintenance in general has been neglected.

McMinn (pers. comm. 2007) would like to see improved infrastructure including new boardwalks, an interpretation center and more access points. This is in keeping with the interests of UTAS of establishing a field camp, which would need infrastructure in place to be feasible. There is certainly scope for improved infrastructure in terms of sustainable living. However, a compelling argument in protected area management is

that mainstream infrastructure such as toilet facilities, hardened tracks and visitor centers can be a driver for the mainstream clientele of mass tourism (Worboys *et al.*, 2005). Notwithstanding, the cost and discomfort of getting to MI would remain a limiting factor for mass tourism.

In the context of access for tourism, the implementation of the quota system keeps the number of visitors low and therefore limits the number of tour operators with MI on their itineraries in a season. Mortimer (pers. comm. 2007) believed the system protected the wilderness values of MI. On a more practical level Jabour (pers. comm. 2007) remarked that by keeping the number of visitors and operators low, operators were able to trade their quotas and thus have a good working relationship with each other.

The relevancy of the annual quota, however, has been bought into question as it lacks a justifiable basis. Currently, the quota is based on the impact that tourism has on station life and research rather than on the ecological carrying capacity of TMAs. Reid (pers. comm. 2007a) conceded the annual quota had been set arbitrarily and work needed to be done to ensure that they were justifiable in the future.

Finally, the quota system is open to undue influence as it sits outside of the MINR Plan and is reviewed annually. Although it has not changed since the Plan came into effect, Reid (pers. comm. 2007a) admitted that the number of permits issued in 2006-07 exceeded the quota. Springer (pers. comm. 2007) was concerned that there may not be a limit to the number of permits issued beyond the set quota. For PWS, undue influence on issuing permits could come from within as there is the potential for greater returns from user fees, from tourism on speculation that profit margins would increase, or from government if the potential of MI as a tourist destination is recognised.

6.3.5 Research

Research policies outlined in the Plan refer to research priorities and management. In the past research activities were unregulated. Scientists would often choose an area of research that would get them to MI, even if their research did not benefit ongoing management or the broader scientific community (Jabour, pers. comm. 2007; Springer,

pers. comm. 2007). MIRAG now assesses research applications in accordance with research priorities and guidelines set in the Plan.

MIRAG decisions intersect State and Commonwealth interests as agencies from both levels of government are members. Through this forum, AAD has the capacity to discretely influence management decisions and practices associated with research through its possession of logistical resources. However, the priorities in the Plan do not match with the National Research Priorities developed by ASAC (PWS, 2006a; Stoddart, Governor's Forum No.4, 2004), hence the public reasoning behind the intended withdrawal of AAD. Hemmings (pers. comm. 2007), believed a withdrawal would give the State an excellent opportunity to set and follow through on its own priorities.

If AAD were to withdraw, MIRAG would be reduced to two members both within State government. A stakeholder such as UTAS could join the advisory group to provide an independent viewpoint on research applications. McMinn (pers. comm. 2007) considered MI to be an important site for monitoring climate change and conservation research, a viewpoint that is consistent with the priorities outlined in the Plan. Involving UTAS would remove the assessment out of the logistics stream and give UTAS the opportunity to participate in an advisory role. Green (pers.com 2007) supported the development a State research agenda that incorporated IASOS and UTAS as it would generate new interest in MI and also in the proposal for a field camp.

From the perspective of stakeholders, management of research as a human activity has had a somewhat mixed response. Compliance and accountability are the main issues affecting effective management of research activities. McMinn (pers. comm. 2007) claimed there was 99 percent compliance by scientists as they received plenty of training and briefings on minimal impact. For Springer (pers. comm. 2007) compliance depended on the individual and ignorance generally occurred when a scientist was interested in just one area of research and was unable to see the boarder picture from a management perspective.

All research requires a permit and enforcing permit conditions is the only way to ensure compliance and accountability. However, when PWS withdrew the permit for the Elephant Seal program in 2000-01 on reports of unethical practices, the situation

backfired. According to Reid (pers. comm. 2007a) all parties were hurt in the fallout as MI became a goldfish bowl for trial by media, damaging effective consultation and ongoing management in the process. Although the Plan has mechanisms in place to prevent a similar situation, the effect of the power play between key parties still resonates today and undermines effective consultation.

6.3.6 Tourism management

Tourism is a relatively new activity on MI compared to research. Since it began, tourism has been strictly controlled and managed very conservatively from a conservation management perspective (Bennett & Kriwoken, 2001). All of the participants indicated tourism was an appropriate and valuable activity. However, the manner in which it is managed engendered significantly different opinions from various stakeholder groupings.

Tour operators have a symbiotic relationship with PWS. Operators provide PWS with logistical support, significant income through user fees and they expose MI's values to an independent and diffuse group of people who often become advocates for conservation management. PWS issues permits to operators that determines access, and provides infrastructure, services and management.

Despite the nature of this relationship, PWS does not appear to have its finger on the tourism pulse. There is overwhelming discontent from the operators who participated over a number of management practices that they believe impinge too heavily on tourism. As mentioned earlier in this chapter, operators were dissatisfied with the inflexible application of zoning for TMAs as it prevented alternative activities such as extended walks along the coastline and up to the plateau.

Reid (pers. comm. 2007) and Springer (pers. comm. 2007) both stated that the nature of shipborne tourism meant operators did not have the luxury to leisurely take their time undertaking numerous activities on MI. If tourists were able to go up to the plateau, they would not be able to spend much time at other sites. As such, the needs of tourism are

satisfied by the opportunities currently available. Furthermore, safety considerations were cited, as bad weather may prevent access back to the ship.

Safety considerations are an underlying issue as dealing with stranded or injured visitors is not an ideal situation. Nevertheless, Mortimer (pers. comm. 2007) indicated that safety procedures were excessive as they were based on the parameters of government employees, which was not appropriate for tourism. Ledingham (pers. comm. 2007) agreed that safety regulations were extremely regimented. Tourists knowingly take risks as it is part of the adventure and every operator is covered by insurance as required under the Plan. Furthermore, tour operators generally insist that their passengers have personal insurance for their trip.

Ledingham (pers. comm. 2007) also cited the requirement of PWS to have an onsite guide accompany visitors at all times as onerous, as operators employed experienced, knowledgeable and well versed guides who were more than capable of managing small tourist groups in accordance with management practices. PWS guides include full time rangers, a ranger employed over the summer period and available station staff as required and their role is to monitor visitor behaviour (PWS, 2006a).

For Russ (pers. comm. 2007) tourism was a tool for advocacy that has set the momentum for promoting the sub-Antarctic and Southern Ocean, yet the MINR Plan currently restricts advocacy by impeding the scope of activities available to tourists on MI. Having the support of operators is essential for ensuring management decisions and practices are effective and operators are content, yet PWS does not appear to have the support of tour operators.

Part of the problem may by that the MINR Plan is more conservative than the management approach adopted by Department of Conservation (DoC) for New Zealand's sub-Antarctic islands. Differences may be amplified by the fact many voyages take in both destinations in a round trip and operators are therefore exposed to two different management regimes in the process. Both Mortimer (pers. comm. 2007) and Ledingham (pers. comm. 2007) thought management practices in the sub-Antarctic needed to be more consistent. Although the issue of sovereignty must be overcome before internationalisation of the sub-Antarctic can occur (Rothwell, pers. comm. 2007).

Tourism management is conservative and considered relatively effective in its aim of conservation management based on the current understanding of management practices and the current pressures of tourism (Hemmings pers. comm. 2007; Jabour pers. comm. 2007; Mortimer, pers. comm. 2007; Rothwell, pers. comm. 2007; Springer pers. comm. 2007). The impact of tourism on MI has been negligible so far, yet according to Galbraith (pers. comm. 2007) tourism was often treated unfairly as a driver for environmental degradation when it was usually the longest serving staff member who had the biggest impact.

Tourism on MI is a growing industry as the Antarctic Peninsula becomes overcrowded and tourism looks to the east for alternative sites. PWS will be under more and more pressure to allow greater access and provide more infrastructure and services. Reid (pers. comm. 2007) believed MI was on the cusp of this occurring now as the State Government may order an increase to the quota as a way of attracting more tourist vessels to Hobart. Having tourist vessels operating out of Hobart brings significant economic benefits to Tasmania (Antarctic Tasmania, 2004). Yet, Hemmings (pers. comm. 2007) supported a cautious approach to increasing tourism, as it should not start to define the values of MI.

Tour operators are in a unique position as the only other stakeholder group with logistical resources in their possession. They are therefore important to the ongoing management of MI. Tour operators have indicated that their concerns are not being heard and they have little influence over management decisions or practices. Whilst in the past, free or heavily subsidised berths were available to management staff on tourist vessels; Reid (pers. comm. 2007) maintained this has not been the case for several years and Springer (pers. comm. 2007) held that tourism as a logistics provider was convenient but very expensive.

6.3.7 Public awareness and community involvement

MI has a multitude of interesting and unique values that are of interest to stakeholders and the public in general. The Plan supports raising awareness through various media

as a means of promoting its values both on and off the reserve (PWS, 2006a). The management policies have been reasonably effective in their implementation as infrastructure and facilities have been kept to a minimum, information to visitors regarding minimal impact and quarantine has been transferred and the media has been allowed to film onsite, and in the context of off reserve promotion educational facilities and recent festivals and forums have all included MI.

Nonetheless, there was general consensus between participants that much more could be done to promote MI to the wider community and that the current policies were not sufficient to achieve this, which calls into question the relevancy of the management approach. In addition to the policies outlined in the Plan, Reid (pers. comm. 2007) stated NPWAC and WHAC were tasked with promoting MI to the wider community, however, as MI was so remote it was difficult for these organisations to engage the community successfully. DEWR is also supposed to promote the world heritage values of MI, however, this has not occurred (Rothwell, pers. comm. 2007).

MI lacks a dedicated strategy that identifies the outcomes from raising public awareness and involving the community and therefore it fails to capitalise on community interest that exists already (Galbraith, pers. comm. 2007). As a result the community is learning about MI in a piecemeal way through the media. For Springer (pers. comm. 2007) there are a lot of stories from MI that have not been told. Getting stories out in to the public arena might personalise MI for people, although creating a forum to expose the general public to these stories is the most difficult aspect.

According to Green (pers. comm. 2007) the four Governor's forums that have been held over the past decade have really lifted people's consciousness and made a real contribution to Antarctic affairs in general. Lawson (pers. comm. 2007) reflected on the International sub-Antarctic forum held in 2006, which elevated MI onto the international stage. These events, in conjunction with the annual Antarctic Midwinter Festival, have all been instrumental in promoting MI and Tasmania's connections with the South.

Ledingham (pers. comm. 2007) pointed out that the rabbit problem is dominating public perception and whilst there was a ground swell of support led by knowledgeable and interested people the connections between them were fairly loose. Creating a formal

group within the community that is able to lobby on behalf of MI might assist in promoting awareness of the more positive aspects of management rather than just focusing on rabbits. Demonstrating to the public that MI's problems could be fixed would be instrumental to engendering wider community support, yet current events have not been conducive to this and MI appears to be a lost cause.

6.3.8 Consultation

Consultation is one area where participants were overwhelmingly in opposition to the options laid down in the Plan, although the reasons for this varied. The Plan outlined two proposals for consultation: an advisory committee, and/or a forum in much the same vein as the Governor's Forums (PWS, 2006a). Developing a mechanism for consultation is listed in the implementation schedule although it does not specify a particular approach, and there is no time frame attached. The draft Plan did impose a twelve month time frame for implementation (PWS, 2003). However, it was not included in the final publication.

The options for consultation laid down in the Plan are not relevant to stakeholders for various reasons. Springer (pers. comm. 2007) was unaware that either option in the Plan even existed, but pointed to MIRAG and IAATO as two effective forums for consultation. Likewise, Lawson (pers. comm. 2007) believed the TPN quarterly meetings provided an adequate forum for consultation as any member can raise a related issue if they wish. However, PWS and BCB are not a members and Ledingham (pers. comm. 2007) held that AAD had not made an appearance for several years.

The draft Plan included an option for co-management for MI (PWS, 2003), which was dropped prior to its public release. Support for an independent joint management approach that brings all legitimate stakeholders together and sets priorities collectively is strong between participants, with the Great Barrier Reef Marine Park Authority Consultative Committee and the Lord Howe Island Steering Committee both cited as examples of effective consultative management in protected areas (Galbraith, pers. comm. 2007; Jabour, pers. comm. 2007; Russ, pers. comm. 2007). In contrast, Reid

(pers. comm. 2007b) cited the need for an independent central coordinating body to coordinate between various stakeholders on issues relevant to them.

For Galbraith (pers. comm. 2007) there were many complications that were inhibiting effective consultation which needed to be overcome, including tenuous State and Commonwealth relations, conflict between AAD and BoM over logistics, State reliance on Commonwealth logistics, the fact the State does not have a clear coherent policy for MI, and the limited capacity of the State to make any sizable contribution towards the implementation of the Plan. All of these issues have resulted in conflict that is indicative of federalism.

A major issue preventing effective consultation is the inability of PWS to lead on the issue (Galbraith, pers. comm. 2007). Reid (pers. comm. 2007a) divulged that unless a stakeholder pursued PWS relentlessly for action on any issue, it would not respond as it is too under resourced to organise joint action or partake in information sharing to start the process off. PWS incapacity is a significant burden on effective and inclusive consultation and its lack leadership increasingly disillusions stakeholders.

The lack of consultation is symptomatic of a poor management approach and inadequate funding, and the issue resonates in every aspect of the Plan. These failures must be overcome to open effective dialogue between stakeholders and encourage transparent decision making. An inclusive, independent management approach must have strong leadership and clear terms of reference. Pursuing joint management would be a decisive move, although in the circumstances even the most basic consultation for expectant and latent stakeholders is a step forward. For definitive stakeholders effort is required to overcome inherent mistrust, particularly at the upper departmental and political levels.

6.4 Influence of topical issues on management outcomes

6.4.1 AAD reallocation of resources

There is uncertainty surrounding the intentions of AAD regarding MI as they have yet to publicly confirm whether they will continue operations on MI or withdraw. In 2005, the Director of AAD, Dr Tony Press (JSCNCET, 2005), indicated that there were no immediate plans to cease activities at Macquarie Island, although admitted AAD is looking at increasing its program in the HIMI region. In early 2006, Chief Scientist Professor Stoddart publicly announced it would withdraw (ABC Online, 10 January 2006). However, confirmation is still forthcoming and there are no details of the extent of withdrawal or timeframe. AAD is considering how best it could direct its limited resources towards AAP research priorities, yet the uncertainty of the situation is affecting strategic planning for other stakeholders, particularly State government agencies, and undermining intergovernmental consultation.

Speculation regarding the *real* reason behind the possible withdrawal of AAD abounds. McMinn (pers. comm. 2007) assumed the only reason it is pulling out of MI was because it cannot work with PWS. Springer (pers. comm. 2007) backed up this position, pointing out there was a huge level of distrust between PWS and AAD at the upper level, which has resulted in a dysfunctional working relationship between the two agencies. The fact that PWS has taken a much more active role in management on MI over the last few years, impinging on AAD activities, may be a contributing factor to AAD wishing to leave.

If AAD were to withdraw it would have a devastating impact on the State government as it does not yet have the capacity to provide logistics without additional funding. State expenditure for MI in 2005 was $180 000 (JSCNCET, 2005), the majority of which is allocated to wages for onsite rangers. According to Reid (pers. comm. 2007a), PWS only pays for its telephone calls and faxes on MI and user fees from tourism are currently used to pay his wages. Conservation management at the State level is therefore heavily subsidised by the Commonwealth as minimal funding from the State is directed towards MI.

Participants have raised concern that the State is too reliant on the Commonwealth to subsidize its activities (Green, pers. comm. 2007; Reid, pers. comm. 2007). The impact this arrangement has on management decisions and practices is far reaching. If AAD withdraw, the State will need to bring about a significant change in the way MI is managed in an effort to secure additional sources of funding. The likely source would be other stakeholders with an interest in joining the logistics stream, thus giving these stakeholders leverage to negotiate more favourable management decisions and practices.

AAD may decide not to pull out fully, or they may be contracted by other Commonwealth agencies such as BoM to provide logistics (Reid, pers. comm. 2007b; Springer, pers. comm. 2007). With a reduced role, AAD may remove itself from the management regime to avoid having to negotiate with PWS. If this were the case, the importance of AAD would decrease and inversely the importance of agencies conducting research on MI would increase. Meanwhile PWS may find that it needs to consult with a greater number of stakeholders on a higher level than it does at present.

AAD are still on MI at present and have yet to confirm its intentions either way. Reid (pers. comm. 2007a) did not believe AAD would leave MI as it would lose valuable long-term data streams. The expense involved with removing old and unwanted buildings, some with asbestos, may also be holding back AAD on making a decision. It does not have an obligation to remove them. However, as a responsible organisation it is unlikely to abandon its responsibilities; rather it would be looking to pass them off onto someone else to circumvent the high cost of removal (Springer, pers. comm. 2007).

Overcoming logistical shortfalls if AAD withdrew may actually result in a better working relationship between other stakeholders. There was a general understanding between participants that stakeholders were allies in the logistics stream and a cooperative approach between them could overcome any shortfalls (Galbraith, pers. comm. 2007; Green, pers. comm. 2007; Jabour, pers. comm. 2007; McMinn, pers. comm. 2007). According to Lawson (pers. comm. 2007) there are people in Tasmania with the capacity to provide logistics, but leadership is needed from PWS from the outset to see what kind of interest there is and if it is feasible.

This issue has created a great deal of uncertainty for stakeholders, particularly those who rely on AAD for logistics. It is most unfortunate that AAD was not willing to participate in this research as there was much speculation surrounding it intentions and motives, which could have been moderated by its participation. There is a deep sense of mistrust between different stakeholder groups (Mortimer, pers. comm. 2007) and the uncertainty created by AAD's secrecy is feeding this mistrust. Developing an effective and inclusive forum for consultation may pressure AAD to reveal its intentions. As soon as this occurs, other stakeholders can begin to plan ahead strategically with what resources are available to them and the process of rebuilding trust can begin.

6.4.2 Eradication program and funding arrangements

The eradication program includes both rabbits and rodents and is based on the past successes of New Zealand on Enderby Island and the French on St Paul Island. It is considered the most ambitious program in the sub-Antarctic to date due to the relatively large size of MI and its isolation (PWS & BCB, 2007). It has the support of participants in general although opinions regarding what kind of funding package should be arranged differ somewhat.

The politicisation of the funding package for the eradication program has affected how stakeholders interrelate with each other. PWS, BCB and DEWR, definitive and expectant stakeholders respectively, have all lost control of the issue as it is elevated to a political level and parliamentarians battle over who has an obligation and who should pay for what. Reid (pers. comm. 2007b) argued that any issue that reaches the upper political level becomes extremely complicated and difficult to resolve.

The amount of money concerned is relatively small in terms of Commonwealth budgets, but not feasible under PWS. The State government has flatly refused to direct any public money towards the program. The Commonwealth will not agree to fully fund the program as it sets a precedent for other WHAs in Australia (Reid, pers. comm. 2007). Federal Environment Minister, Malcolm Turnbull, certainly had his suspicions that the State saw MI as a testing ground for manipulating the Commonwealth into providing additional funds for other WHAs (ABC Online, 11 May 2007).

According to Rothwell (pers. comm. 2007) the Commonwealth has a responsibility to MI due to the international protection ascribed to it and its obligations under the Constitution. The State also has a responsibility to MI and has an obligation to act in good faith before the Commonwealth will step in, which is clearly not happening at present. Even so, Tasmania is a low income state and in reality the resolution of this is issue will be embodied in the fiscal realities of Australia's federal system.

Hemmings (pers. comm. 2007) was embarrassed that Australia is still grappling with this issue as New Zealand and South Africa solved it years ago. He believes someone needs to seize the high ground, proceed with the eradication program and sort out who pays for it later. Yet, PWS and BCB do not have the financial base to draw on to fully implement the program. If the program was partly implemented and additional funding not forthcoming, the work up to that point would be worthless. Having said that, the State or Commonwealth may step in to ensure it is seen through to completion, however, PWS and BCB may never be recompensed for the initial outlay, and it is this uncertainty that is preventing independent action.

Meanwhile, stakeholders who have an interest in the direct use of MI and a common interest in protecting its values have voiced their concern over the inaction. All three participating tour operators indicated the program needed to be implemented as soon as possible and if the State was unable to fund it then MI should be ceded to the Commonwealth (Ledingham, pers. comm. 2007; Mortimer, pers. comm. 2007; Russ, pers. comm. 2007). In addition, WWF and TNPA have been scathing in the media in their reproach of the State government for its inaction. Without a resolution, this situation has been damaging to both governments and MI.

6.4.3 Jurisdictional arrangements

The debate over jurisdictional arrangements for MI emerged from the ongoing deliberation over who should fund the eradication program. There is consensus among participants that the State is not fulfilling its obligations to MI but opinions differed considerably over whether MI would be any better off under the Commonwealth. One

aspect that is clear is that all participants interviewed in Tasmania indicated it would be a shame if Tasmania gave up MI as it is a valuable part of Tasmania's identity.

PWS is struggling to meet its obligation of protected area management in the state (Reid, pers. comm. 2007a; Duncan, pers. comm. 2006; Garner, pers. comm. 2006; Lennox, pers. comm. 2006; Saunders, pers. comm. 2006) and MI is no different. The additional burden of the eradication program appears to be too much for the State Government, which is occupied with other funding priorities. As a State that operates in deficit, ceding an expensive and seemingly unimportant piece of land to the Commonwealth makes good economic sense (Lawson, pers. comm. 2007).

However, this possibility unlocks a raft of questions. First of all the State may not be able to give MI to the Commonwealth, and secondly the Commonwealth may refuse to take it. Reid (pers. comm. 2007b) argued that if the Commonwealth took over, MI would become a little fish in a big pond of priorities with respect to parks management and quarantine, yet it would always have a higher priority if it were managed locally.

If MI were ceded, the MINR Plan might become null and void and MI would no longer be afforded protection as a Tasmanian nature reserve. It is likely that MI would be managed in a similar way to HIMI under the auspice of AAD and it may end up having a greater role in the AAP as the Commonwealth would no longer have to negotiate with the State for access (McMinn, pewrs.com. 2007; Reid, pers. comm. 2007a). However, there is no guarantee that the Commonwealth will do this and MI could fall off the public radar (Green pers. comm. 2007; Reid, pers. comm. 2007a; Springer, pers. comm. 2007).

All of the participating tour operators would prefer to see MI managed under the Commonwealth. Mortimer (pers. comm. 2007) argued the legacy of Tasmania's jurisdiction over MI prevented clear sighted management and long term research. Ledingham (pers. comm. 2007) suggested MI could be managed as part of a complete ecological system with New Zealand's sub-Antarctic islands but insisted this would only be feasible if MI was controlled by the Commonwealth as Federal Parks is in a far better position to negotiate with DoC.

The question of whether MI could be ceded to the Commonwealth and whether it would be better off would keep constitutional lawyers and parks managers occupied for years (Lawson, pers. comm. 2007; Rothwell, pers. comm. 2007). The solution of this issue would best be achieved through compromise. Galbraith (pers. comm. 2007) advocated joint management as the best option for surmounting the complexities of the management regime and achieving effective management. However, such an arrangement would require a committed approach from both the State and Commonwealth governments that surpasses the moral stance and includes a financial commitment from both parties.

6.4.4 UTAS field camp proposal

The proposal by UTAS to establish a small educational field camp on MI for postgraduate coursework is still in the initial planning stages. The concept behind the proposal is to provide students at the Masters level the opportunity to strengthen their knowledge base by undertaking studies on MI (McMinn, 2005). The proposal would also benefit UTAS by differentiating it from other tertiary providers in the region. It has the overwhelming support of participants, although several concerns were raised regarding logistical arrangements and how it would benefit MI.

Springer (pers. comm. 2007) was the only participant to oppose the proposal on the basis that it would be a vehicle for low grade research that would not benefit MI in any way and should therefore be avoided. In addition, he did not believe a field camp would be used exclusively for Masters' students; rather it would quickly expand to include courses at a lower level, thus pushing the quality of research lower. The proposal scoping paper states courses would be offered to postgraduate students to begin with, but would also become available for credit towards undergraduate degrees soon after (McMinn, 2005).

According to Hemmings (pers. comm. 2007) the field camp would need to ensure it provided high quality research with an international collaborative focus and lots of international connections for it to be relevant to polar science. An important aspect of the proposal is the tight relationship between UTAS and IAI. The field camp would be a

huge drawcard for enticing international and interstate students to study at UTAS through IAI, with direct benefits to UTAS and Tasmania. It may also encourage greater corporate sponsorship for research.

The feasibility of the proposal depends upon access to logistics and onsite facilities. UTAS has discussed access and potential zoning and site pressures with PWS, although an environmental impact assessment has not been completed as yet (McMinn, pers. comm. 2007). With regards to logistics, the intention is to invite tenders to see what kind of support is available. Mortimer (pers. comm. 2007) held that tourism could assist in getting students on and off MI as the tight timeframes associated with researchers would not be as pressing.

Alternatively, a small charter vessel or private yacht could be contracted to operate between MI and Hobart on a user pays basis. However, this raises the issue of equitable learning opportunities for students, particularly for domestic students studying under the government subsidised Higher Education Commonwealth Support (HECS) system. For Galbraith (pers. comm. 2007) a cooperative approach towards logistics that incorporated all stakeholders who have the capacity to contribute would produce a beneficial outcome for all, including UTAS. With up to four units planned per season, it also gives other stakeholders far more opportunities to get personnel on and off MI than are currently available under AAD.

UTAS proposes to utilise AAD facilities on MI at first and build low impact facilities when feasible (McMinn, pers. comm. 2007). The proposal is therefore dependent on the intentions of AAD. The fact that UTAS wants access to AAD facilities may sway AAD in its decision to stay on MI or withdraw, particularly if it can avoid the cost of removing its buildings and rehabilitating the station site. However, UTAS would be reluctant to take over full responsibility of facilities due to the high costs associated with rehabilitation that would eventually have to be met.

If the proposal was approved and the field camp established, UTAS would become a key stakeholder with a much higher level of importance and influence over management decisions and practices than it enjoys at present. It is a strategically sound proposal as it value adds to the core business of UTAS and it would define the connection between

UTAS and MI much more clearly (Rothwell, pers. comm. 2007). However, McMinn (pers. comm. 2007) admitted that it had been shelved since the last election as UTAS had not able to establish a good relationship with State politicians as the eradication program was dominating public debate.

6.5 Opportunities, constraints and future prospects

Macquarie Island faces an uncertain future due to the recent shift in stakeholder priorities to reflect new priorities and fiscal realities. This uncertainty is likely to continue until AAD makes its intentions clear and an appropriate funding package is arranged between the State and Commonwealth for the eradication program. Whilst this uncertainty inhibits long term strategic planning for stakeholders, it removes the barriers to lateral thinking and allows greater consideration for a range of opportunities that may not have been otherwise possible.

There is strong interest in MI from the tourism sector and evidence in the literature and from key informants indicates this interest is likely to grow as the Antarctic Peninsula becomes more crowded and tourism seeks new and exciting experiences (Hemmings, pers. comm. 2007; Jabour, pers. comm. 2007; Bauer, 2001; Wouters & Hall, 1995). Tasmania is in a unique position to capitalise on this growth by promoting MI as a tour destination and Hobart as a gateway with strong historical and contemporary links with the South.

Jabour (pers. comm. 2007) believed destination development would provide the foundation for specialist packages aimed at the adventure tourist or commercial volunteer programs. However, there is concern that the current level of management will not be able to cope with additional pressures from tourism (Hemmings, pers. comm. 2007; Rothwell, pers. comm. 2007). Any shortcomings could be overcome by raising user fees. A significant increase in user fees is possible as shipborne tourists pay through their operator and the cost is factored into the overall price of the cruise. With considerable outlays already, it is unlikely an increase would be noticed.

Any increase raises moral issues of the level of service provided. Unlike national parks, MI user fees are not appropriated back into PWS budget but are directed back into management on MI. It is difficult to justify an increase in user fees when two out of three boardwalks were closed last season and one is currently being dismantled (Reid pers. comm. 2007a; Springer, pers. comm. 2007). If infrastructure were improved there is a good case to increase user fees and the number of visitors could also increase without causing additional environmental impact (McMinn, pers.com 2007). However, Hemmings (pers. comm. 2007) warned that pursuing economic development would alter the values for which MI is recognised.

Research is another area where greater effort to attract and support interest could bring significant economic, social and environmental benefits to MI and Tasmania. Hobart is Australia's epicentre for Antarctic research and support industries. MI plays a small but undeniable part in the Antarctic sector. For Green (pers. comm. 2007) creating new and exciting research opportunities would renew scientific interest in MI. Appealing to young and upcoming researchers would give new life to MI and tap into this relatively untouched resource. It is difficult for young people to access places like MI because of the associated cost. If UTAS and IAI were able to develop the logistics needed to establish and maintain a field camp, they could provide this opportunity.

The future for MI may end up in resource development, contrary to its current status as a highly protected area. The gateway concept for Hobart has been very successful (Jabour, pers. comm. 2007) and the Airlink in particular has generated a lot of international interest, further enhancing Hobart's reputation. Apart from research and a growing interest from the tourism sector, MI has other resources that could be exploited, such as mining out on the continental shelf, fishing and bio-prospecting (Hemmings, pers. comm. 2007; Rothwell, pers. comm. 2007). Actively pursuing resource exploitation would be a major paradigm shift in how MI is viewed and management, although it would give the State and Commonwealth a tangible income to negotiate with.

An alternative theme to emerge from the analysis is funding from philanthropy, either through industry or individuals (Galbraith, pers. comm. 2007; Green, pers. comm. 2007; Reid, pers. comm. 2007b; Russ, pers. comm. 2007). Grants, donations or trusts would greatly assist in overcoming the constraints of government appropriations. Accepting

money from private sources raises concerns about what would be expected in return. Nevertheless, philanthropy is not uncommon in protected area management and so long as it is used appropriately it could provide a valuable contribution to an already tight budget.

A significant constraint to effective management is the lack of inclusive and constructive consultation between stakeholders. This issue is insidious as it underpins all aspects of human use on MI. Inadequate funding for PWS, distrust and suspicion between the State and Commonwealth, ongoing concerns surrounding the jurisdiction of station staff, and the lack of a clear coherent policy at the State level with resources to follow through, are all contributing factors undermining effective consultation (Galbraith, pers. comm. 2007; Mortimer, pers. comm. 2007; Reid, pers. comm. 2007a).

Although there are several forums currently available to stakeholders only MIRAG and the Quarantine Advisory Group include both PWS and AAD. Meanwhile, the majority of expectant and latent stakeholders are left out of these two forums. Two options to rectify this issue have emerged from the analysis: a joint management approach between stakeholders inclusive of all vested interests (Galbraith, pers. comm. 2007; Green, pers. comm. 2007; Jabour, pers. comm. 2007), or a central independent coordinating body that can consult with stakeholders regarding issues that are relevant to them (Reid, pers. comm. 2007b). In addition, MI needs a rational and feasible policy at the State level as the Plan does not provide clear policy direction that is inclusive of stakeholder interests and it is inadequately funded for implementation.

A limiting factor to any human activity on MI is logistics and infrastructure. The reliance of the State on the Commonwealth to subsidize management and research activities has placed the State in a tenuous position, whereby it does not have the resources or capacity to support its own activities. If AAD were to withdraw from MI, this issue would be a 'show stopper' for the State (Lawson, pers. comm. 2007). The State must break this historical dependence on the Commonwealth as it undermines consultation. A joint approach between stakeholders who have the capacity to invest in the logistics stream was a common suggestion in the analysis that should be investigated further.

Funding for the eradication program and the subsequent debate over jurisdictional arrangements is interesting in theory but both are essentially non-issues. It is most unlikely that MI would change hands to the Commonwealth and a funding package for the eradication program will be settled at the political level eventually. Generating public interest would assist in raising awareness of MI and its plight and may help get MI on the policy agenda. Media coverage and film would be most effective for reaching out to the wider community and both are effective mediums for telling the many interesting stories of MI (Springer, pers. comm. 2007).

It is difficult to surmise what the future may hold for MI in face of such uncertainty and secrecy between stakeholders. Although AAD has indicated that it will publicly announce its intentions before it the releases the Future's Report (Jackson, pers. comm. 2007), it may be some time until this occurs. The initial response from the State was condemnation at the proposed withdrawal (ABC Online, 11January 2006), yet there are alternatives that may be more attractive and less troublesome for the State. It would certainly be in the Tasmania's best interests to hold on to MI as it could become a leader in the sub-Antarctic by supporting activities that generate a greater understanding and appreciation of this unique part of the world.

6.6 Postscript

This research has provided a snapshot of MI in the current political and economic climate. Its relevancy to management decisions and practices is only in the short term as stakeholder interests and interrelations can change considerably in a short period of time in response to external and internal influences. The recent resolution of the dispute between the State and Commonwealth governments over who should fund the eradication program has exemplified the transient nature of stakeholder analysis.

This research was in the final stages of completion when a funding arrangement for the eradication program was brokered. The State and Commonwealth will equally share the $24.6 million cost of the program on the condition it is managed by a joint steering committee supported by a scientific advisory council, and the Commonwealth will

provide an additional $1.6 million to support PWS on MI per annum (ABC Online, 4 June 2007).

The State government held fast in its refusal to contribute to the program for some time as the issue over responsibility and jurisdiction was debated in the public media. The State has now capitulated but it has not come away empty handed. Although the Commonwealth's offer to fund half of the program was offered six months ago, the additional support for PWS is a significant boost in its annual allocation for MI. Furthermore, the first two years are fully funded by the Commonwealth so the State has no initial up front costs (ABC Online 5 June 2007).

This development alters the way stakeholders interrelate with each other and their importance relative to each other. As the dispute has been resolved, it is removed from the political agenda and descends back into the hands of the government departments and agencies tasked with the implementation of the program. Furthermore, those expectant and latent stakeholders who have publicly lobbied for the eradication program to begin, no longer have the common goal to align with, and their conflict with parliamentarians is diminished. For environmental lobby groups this may actually cancel out their immediate claim over MI as they no longer have an urgent agenda to pursue.

The formation of a joint steering committee provides a new forum for consultation that will incorporate relevant State and Commonwealth departments and agencies and adopt a joint management approach. If implemented properly, the committee would lay the foundation for effective consultation that would overcome the constraints of federalism, and promote open dialogue, and transparent and inclusive decisions making. If improved consultation is achieved, there may scope in the future to expand the committee to include non-government stakeholders and address other issues.

6.7 Summary

This chapter discussed the interests, attitudes, perceptions and behaviour of stakeholders drawn from the key informant interviews in context with the results from the stakeholder analysis and the literature review. The discussion identified several

opportunities and constraints for human activities on MI and subsequent management approaches that are inclusive of all vested stakeholders.

Stakeholder perceptions of conservation and human use management policies outlined in the MINR Plan were fairly consistent with stakeholder interests, with some exceptions where variations within groupings such as tourism were evident. Whilst there was general support of the conservation approach of the Plan, stakeholders want more input into management decisions and practices, particularly in regards to zoning, access and tourism. However, consultation processes are severely inhibited and expectant and latent stakeholders are not finding the opportunity to consult with definitive stakeholders in the one forum. Notably, PWS is absent from any forum that includes private sector interests.

Stakeholder views regarding the four topical issues that currently affect management decisions and practices are indicative of widespread mistrust and uncertainty over the future. If MI is to have a bright and harmonious future, uncertainty and mistrust must be surmounted. Most importantly, AAD must make its intentions clear, and the Commonwealth and State need to engage in open dialogue over funding arrangements and intent of use to clearly delineate the rights and responsibilities of both levels of government.

To further strengthen the position of the State, it needs to develop a clear and coherent policy for MI that is properly resourced. Before any policy is implemented, a formal identification of stakeholders followed by an appropriate consultation process should be undertaken. This would ensure legitimate stakeholders are given the opportunity to participate and it would gauge their willingness to contribute to a collective future for MI.

Finally, an independent management approach that would be inclusive of stakeholders and promote effective consultation needs to be explored. Further investigation is necessary to determine how feasible this would be and whether stakeholders have the capacity and/or will to participate. The recent decision to create a joint steering committee for the eradication program would start this process off by opening dialogue between the State and Commonwealth. The additional financial support for PWS may improve its capacity to actively pursue consultation and information sharing with other

stakeholders, which would provide the foundation for comprehensive and inclusive management approach.

References

ABC Online, 5 June 2007. *Federal minister defends pest funding deal for island.* http://www.abc.net.au/news/newsitems/200706/s1942845.htm, accessed 15 June 2007.

ABC Online, 4 June 2007. *Macquarie Island funding deal.* http://www.abc.net.au/news/newsitems/200706/s1941915.htm, 15 June 2007.

ABC Online, 11 May 2007. *Canberra fears Macquarie island push could spread.* http://www.abc.net.au/news/newsitems/200705/s1920348.htm, accessed 25 May 2007.

ABC Online, 17 March 2007. *Macquarie Island pest eradication deal reached.* http://www.abc.net.au/news/newsitems/200703/s1874309, accessed 28 March 2007.

ABC Online, 16 March 2007. *Call for Minister to resign over island infestation problems.* http://www.abc.net.au/news/newsitems/200703/s1873426, accessed 28 March 2007.

ABC Online, 7 March 2007. *Ministers discuss Macquarie Island pest eradication funding.* http://www.abc.net.au/news/newsitems/200703/s1865900, accessed 28 March 2007.

ABC Online, 11 January 2006. *Govt. attacks planned shift of Antarctic Operations.* http://www.abc.net.au/news/newsitems/200601/s1545337.htm, accessed 30 January 2007.

ABC Online 10 January 2006. *Researchers to move Antarctic operations.* http://www.abc.net.au/news/newsitems/200601/s1545153.htm, accessed 3 January 2007.

AAD, 2006. 'What is ANARE?' *Antarctic Families & Communities, Australian Antarctic Division.* http://www.aad.gov.au/default.asp?casid=7308, accessed 21 April 2007.

AAD, n.d. 'Macquarie Island' *Transport Schedules (1997-98 to 2006-07).* Australian Antarctic Division. http://its-db.aad.gov.au/proms/public/schedules/, accessed 27 February 2007

AHC, 2007. *Australian Heritage Council Database, Place Details: Macquarie Island, Hobart, TAS, Australia.* http://www.environment.gov.au/cgi-bin/ahdb/search.pl, accessed 17 April 2007.

Antarctic Tasmania, 2005. *Discussion Paper: establishment of a Macquarie Island Management Authority (MIMA)*, version 2.2 (Draft). Department of Economic Development: unpublished.

Antarctic Tasmania, 2004. *Tasmania's Antarctic, sub-Antarctic and Southern Ocean Policy 2004.* Department of Economic Development: Hobart.

Antarctic Tasmania, 2004b. *Antarctic Tasmania, homepage.* Department of Economic Development. http://www.development.tas.gov.au/antarctic/, accessed 12 May 2007.

Bauer, T., 2001. *Tourism in the Antarctic: Opportunities, Constraints and Future Prospects.* Hayworth Hospitality Press: Binghamton.

Bennett, M. & Kriwoken, L., 2001. *Managing wildlife tourism on Australia's sub-Antarctic Macquarie Island.* http://www.wildlifetourism.org.au/ppts/swtc_bennett_mark.pdf, accessed 17 February 2007.

Blackhall, S., 2007. *Wildlife Biologist, Biodiversity Conservation Branch, Department of Primary Industries and Water.* personal communication, 26 April 2007.

BoM, 2007. *History of Macquarie Island Meteorological Office.* Bureau of Meteorology. http://www.bom.gov.au/weather/tas/macquarie/history.shtml, accessed 14 May 2007.

Boyer, P., & Haywood, E., 2006. *Islands of the Southern Ocean.* Program and Information for the delegates to the International forum on the Sub-Antarctic, Hobart.

Bradshaw, M. & Stratford, E., 2000. 'Qualitative Research Design & Rigour', in Hay, I. (ed), *Qualitative Research Methods in Human Geography*, 37-49. Oxford University Press: South Melbourne.

Bridgman, P. & Davis, G., 2004. *The Australian policy handbook*, 3rd edition. Allen & Unwin: Crows Nest.

Brown B., 2007. *The Greens: Senator Bob Brown, media releases 30 March 06: Senate condemns Wriedt.* http://www.bobbrown.org.au/600_media_sub.php?deptItemID=2263, accessed 28 March 2007.

Brugha, B. & Varvasovszky, Z., 2000. 'Stakeholder Analysis: a review', in *Health Policy and Planning*, volume 15(3), 239-246.

Bryden, M., 1988. 'Macquarie Island: a wonder spot of the world', in Banks, M. & Smith, S. (eds), *Macquarie Island.* Papers and Proceedings of the Royal Society of Tasmania, volume 122(1), 1-7. I.C. Carter Acting Government Printer: Tasmania.

Burgoyne, J., 1994. 'Stakeholder Analysis' in Cassell, C. & Symon, C. (Eds), *Qualitative Methods in Organisational Research: a practical guide*, 187-207. Sage Publications: London.

CBD, 1992. *The Convention on Biological Diversity, Article 8. In-situ Conservation.* http://www.biodiv.org/convention/articles.shtml?a=cbd-08, accessed 20 April 2007.

Cessford, G. & Dingwall, P, 1998. 'Research on shipborne tourism to the Ross Sea region and the New Zealand sub-Antarctic islands', in *Polar Record*, volume 34(189), 99-106.

Clarkson, M., 1995. 'A Stakeholder Framework for Analysing and Evaluating Corporate Social Performance', in *Academy of Management Review*, volume 20(1), 92-117.

Commonwealth of Australia, 2004. *Continental Shelf Submission of Australia: Executive Summary.* Commonwealth of Australia: Canberra.

Copson, G. & Whinam, J., 1998. 'Response of vegetation on subantarctic Macquarie Island to reduce rabbit grazing', in *Australian Journal of Botany*, volume 46(1), 15-24.

Cumpston, J., 1968. *Macquarie Island, Publication No.93, ANARE Scientific Reports.* Commonwealth of Australia: Canberra.

Davis, B., 1988. 'Heritage Conservation in Antarctic and Subantarctic Jurisdictions: the case of Macquarie Island', in Banks, M. & Smith, S. (eds), *Macquarie Island.* Papers and Proceedings of the Royal Society of Tasmania, volume 122(1), 9-14. I.C. Carter Acting Government Printer: Tasmania.

DEWR, 2007a. *Environment Protection and Biodiversity Conservation Act, about the EPBC Act.* Department of the Environment and Water Resources. http://www.environment.gov.au/epbc/about/index.html#legislation, accessed 19 April 2007.

DEWR, 2007b. *Department of Environment and Water Resources: role and functions.* http://www.environment.gov.au/about/index.html, accessed 8 May 2007.

DPIW, 2007a. *Managing our Natural Resources: Threatened Species Information.* Department of Primary Industries and Water. http://www.dpiw.tas.gov.au/inter.nsf/ThemeNodes/LBUN-6XW2D7?open, accessed 13 May 2007.

DPIW, 2007b. *Overview of Quarantine Tasmania.* Department of Primary Industries and Water. http://www.dpiw.tas.gov.au/inter.nsf/WebPages/KFUG-5U5VGG?open, accessed 13 May 2007.

DPIWE, 2004. *Better Planning Outcomes: improving Tasmania's Planning System*, a discussion paper. Department of Primary Industries, Water and Environment. http://www.justice.tas.gov.au/__data/assets/pdf_file/62471/BPO_final_dpaper_nov04.pdf, accessed 11 May 2007.

DPWH, 1991. *Macquarie Island Nature Reserve Management Plan 1991.* Department of Parks, Wildlife and Heritage: Hobart.

DTAE, 2006. *2005-2006 Annual Report: Financial Statements.* Department of Tourism, Arts and the Environment.

http://www.dtae.tas.gov.au/_media/_pdf/annual_reports/2005_06/24_financial_statements.pdf, accessed 13 May 2007.

Duncan, A., 2006. *Regional Manager, Parks and Wildlife Service Tasmania, Southern Region*, personal communication, 15 September 2006.

Eagles, P., McCool, S. & Haynes, C., 2002. *Sustainable Tourism in Protected Areas: Guidelines for Planning and Management.* World Commission on Protected Areas (WPCA) Best Practice Protected Area Guidelines Series 8. IUCN: Gland.

Elias, A. & Cavana, R., 2000. *Stakeholder Analysis for Systems Thinking and Modelling.* The 35th Annual Conference of the Operational Research Society of New Zealand, Victoria University of Wellington.
www.mcs.vuw.ac.nz/opre.orsnz2000/papers/BobCavana.pdf, accessed 25 March 2007

Environment Australia, 2001. *Macquarie Island Marine Park Management Plan 2001-2008.* Department of the Environment and Water Resources, Australian Government: Canberra.

Freeman, R., 1984. *Strategic Management: a stakeholder approach.* Pitman: Boston.

Garner, M., 2006. *Senior Ranger, Parks and Wildlife Service Tasmania, Huonville*, personal communication. 16-17 September 2006.

Gergen, K., 1968. 'Assessing the leverage points in the process of policy formulation', in Bauer, R. & Gergen, K. (Eds), *The Study of Policy Formulation*, 181-204. Free Press: New York.

Governor's Forum No.4, 2003. *Tasmania, the Antarctic and the Sub-Antarctic*, a record of proceedings at a forum held by the Governor of Tasmania in Hobart on 1 August 2003. http://www.development.tas.gov.au/antarctic/publications/CompleteGov_Forum_2305.pdf, accessed 10 October 2006.

Grimble, R., Chan, M., Aglionby, J. & Quan, J., 1995. *Trees and Trade-Offs: a stakeholder approach to natural resource management.* International Institute for

Environment and Development, Gatekeeper Series No. 52. http://www.iied.org/pubs/pdf/full/6066IIED.pdf, accessed 17 March 2007.

Hall, M., 2000. 'Integrated Heritage Management: dealing with principles, conflict, trust and reconciling stakeholder differences', in *Heritage Economics: challenges for heritage conservation and sustainable development in the 21st century.* Australian Heritage Commission: Canberra.

Headland, R., 1994. 'Historical Development of Antarctic Tourism', in *Annals of Tourism Research*, volume 21(2), 269-280.

Heritage Expeditions, 2007. 'In the Footsteps of Sir Douglas Mawson Voyage', *East Antarctic Departure Dates.* http://www.heritage-expeditions.com/travel/eastant-departures/, accessed 1 March 2007.

Hobart Town Gazette, 1825. *Separation of Van Dieman's Land from New South Wales: a Proclamation.* Hobart Town Gazette, 17 December 1825.

IAI, 2007. 'Partners and Associates', *International Antarctic Institute.* http://www.iai.utas.edu.au/partners/, accessed 12 May 2007.

IAI, 2004. *International Antarctic Institute: draft working paper.* http://www.iai.utas.edu.au/about/position.pdf, accessed 11 May 2007.

Jackson, A., 2007. *Manager, Antarctic and International Policy Australian Antarctic Division*, personal communication, 17 May 2007.

Jennings, S. & Lockie, S., n.d. *Application of stakeholder analysis and social mapping for coastal zone management in Australia.* Manuscript forthcoming in a special issue of the Journal of Coastal Conservation. www.coastal.crc.org.au/pdf/RRR03/RRR03_Lockie_Rockloff_mapping.pdf, accessed 16 March 2007.

JSCNCET, 2005. *Antarctica: Australia's Pristine Frontier, Report on the adequacy of funding for Australia's Antarctic Program.* Joint Standing Committee on the National Capital and External Territories, Parliament of Australia. Commonwealth of Australia: Canberra.

Kemp, D., Truss, W. & Green, B., 2003. *$2.2 Million to Deliver Facilitators for Tasmanian Natural Resource Issues.* Joint media release, The Hon Dr David Kemp MP, Minister for the Environment and Water Resources 2001-2004. http://www.environment.gov.au/minister/env/2003/mr21oct03.html, accessed 4 May 2007.

Kriwoken, L., Ellis, C. & Holmes, N., 2006. 'Macquarie Island, Australia', in Baldacchino (Ed), *Extreme Tourism: Lessons from the World's Cold Water Islands*, 193-204. Elsevier: Boston.

Lennox, S., 2006. *Parks and Wildlife Service Tasmania, Derwent Park*, personal communication. 9 October 2006.

Lindblom, C., 1959. 'The science of muddling though', in *Public Administration Review*, volume 19, 78-88.

McCracken, G., 1988. *The Long Interview.* Sage Publications: Newbury Park.

McMinn, 2005. *University of Tasmania Macquarie Island Field Station: a centre for Antarctic and Southern Ocean Education.* University of Tasmania and Institute of Antarctic and Southern Ocean Studies, scoping paper.

Mitchell, R., Agle, B. & Wood, D., 1997. 'Towards a Theory of Stakeholder Identification and Salience: defining the principle of who and what really counts' in *Academy of Management Review*, volume 22(4), 853-886.

NCB, 2000. *Threatened Species Strategy 2000.* Nature Conservation Branch, Department of Primary Industries, Water and Environment: Hobart.

NHT, 2001. 'Success in the fight against feral cats', in *Natural Heritage – The Journal of the Natural Heritage Trust*, No.9. Environment Australia and Agriculture, Fisheries and Forestry Australia. http://www.nht.gov.au/publications/journal/nht9/story10.html, accessed 6 May 2007.

NOO, 2001. *Snapshot of the South-East: the South-East Regional Marine Plan.* National Oceans Office. http://www.environment.gov.au/coasts/mbp/publications/pubs/se-snapshot.pdf, accessed 19 April 2007.

NRM South, 2005. *Natural Resource Management Strategy for Southern Tasmania.* http://www.nrmtas.org/library/south/documents/Fin_Strat_200505v1_WEB.pdf, accessed 23 April 2007.

Paine, M., 2007. 'Islands funds battle', in *The Mercury*, 20 February 2007, 1-2.

Parliament of Tasmania, 2007. *Notices of Motion 209: Mr Rockliff.* No. 3 Tuesday 13 March 2007. http://www.parliament.tas.gov.au/HA/hamot.htm, accessed 29 March 2007.

Parliament of Tasmania, 1997. *Plant Quarantine Act 1997.* Tasmanian Consolidated Legislation Online. http://www.thelaw.tas.gov.au/, accessed 13 May 2007.

Potter, S., 2006. 'The Quarantine Management of Australia's Antarctic Program', in *Australasian Journal of Environmental Management*, volume 13, 185-195.

PWS, 2007. *National Parks and Wildlife Advisory Council.* Parks and Wildlife Service Tasmania, Department of Tourism, Arts and Environment. http://www.parks.tas.gov.au/NPWAC/index.html, accessed 5 February 2007.

PWS, 2006a. *Macquarie Island Nature Reserve World Heritage Area: Management Plan 2006.* Parks and Wildlife Service Tasmania, Department of Tourism, Arts and the Environment: Hobart.

PWS, 2006b. *Guidelines for Tourist Operations and visits to Macquarie Island Nature Reserve and World Heritage Area 2006/2007.* Parks and Wildlife Service Tasmania, Department of Tourism, Arts and the Environment

PWS, 1991. *Macquarie Island Nature Reserve: Management Plan 1991.* Department of Parks, Wildlife and Heritage: Hobart.

PWS & BCB, 2007. *Plan for the Eradication of Rabbits and Rodents on Subantarctic Macquarie Island.* Parks and Wildlife Service, Department of Tourism, Arts and the Environment, and Biodiversity Conservation Branch, Department of Primary Industries and Water: Tasmania.

Quilty, P., 2005. 'Macquarie Island', in Alexander, A. (Ed), *The Companion to Tasmanian History*, 225-226. Centre for Tasmanian Historical Studies: Hobart.

Ramsar, 2005. *National Planning Tool for the Implementation for the Ramsar Convention on Wetlands.* http://www.ramsar.org/cop9/cop9_nr+_australia.pdf, accessed 19 April 2007.

RPDC, 2005. *Report on Macquarie Island Nature Reserve and World Heritage Area Draft Management Plan 2003.* Resource Planning and Development Commission: Hobart.

Salancik, G. & Pfeffer, J., 1974. 'The bases and use of power in organisational relationships: the case of universities', in *Administrative Science Quarterly*, volume 19, 453-473.

Saunders, C., 2006. *Community Engagement Officer, Parks & Wildlife Service Tasmania, Huonville*, personal communication. 9 October 2006.

Schmeer, K., 2000. 'Stakeholder Analysis Guidelines', in *Policy Toolkit for Strengthening Health Sector Reform*, LAC HSR Health Sector Reform Initiative. http://www.phrplus.org/Pubs/lacpolicytoolkit.pdf, accessed 8 March 2007.

Selkirk, P., Seppelt, R. & Selkirk, D., 1990. *Subantarctic Macquarie Island: Environment and Biology.* Cambridge University Press: Cambridge.

Simmons, J. & Lovegrove, I., 2005. 'Bridging the Conceptual Divide: lessons from stakeholder analysis', in *Journal of Organisational Change Management*, volume 18(5), 495-513.

Stephenson, L., 1990. *Macquarie Island Nature Reserve: a philosophical approach to ecosystem conservation and the management of human impact.* Master of Environmental Studies thesis. University of Tasmania: Hobart.

Tasmanian Government, 2005. 'Stakeholder Management', *Tasmanian Government Project Management Guidelines.*

TMAG, 2006. 'Tasmanian Museum and Art Gallery: Islands to Ice Exhibition', in *Department of Tourism and the Environment Annual Report 2005-06*, 48-51.

Townrow, K., 1988. 'Sealing sites on Macquarie Island: an archeological survey', in Banks, M. & Smith, S. (eds), *Macquarie Island.* Papers and Proceedings of the Royal Society of Tasmania, volume 122(1), 15-25. I.C. Carter Acting Government Printer: Tasmania.

TPN, 2002. *A bit of History around the TPN.* The Tasmanian Polar Network. http://www.tpn.aq/docs_public/TPN_History.pdf, accessed 4 April 2007.

TPN, n.d. *Tasmanian Polar Network, Welcome.* http://www.tpn.aq/, accessed 4 May 2007.

TRBG, 2006. *Attractions: Subantarctic Plant House.* Royal Tasmanian Botanical Gardens. http://www.rtbg.tas.gov.au/sub_house.html, accessed 11 May 2007.

UTAS, 2004. *University of Tasmania Plan 2005-2007.* http://www.utas.edu.au/universitycouncil/uniplan2005_07.pdf, accessed 12 May 2007.

Veal, A., 1997. *Research Methods for leisure and tourism: a practical guide*, second edition. Prentice Hall: Essex.

Weber, M., 1947. *The Theory of Social and Economic Organisation.* Free Press: New York.

Weible, C., 2006. 'An Advocacy Coalition Framework Approach to Stakeholder Analysis: understanding the political context of California Marine Protected Area Policy', in *Journal of Public Administration Research and Theory*, volume 17, 95-117.

Weiss, J., 2003. *Business Ethics: a Stakeholder and Issues Management Approach*, 3rd edition.

Whinam, J., Bergstrom, D. & Chilcott, N., 2002. 'Threats of alien organisms to subantarctic islands', in *Abstracts of XXV Symposium on Polar Biology.* National Institute of Polar Research: Japan.

WCMC, 1997. 'World Heritage Sites, Macquarie Island', *Protected Areas Programme.* United Nations Environment Program and World Conservation Monitoring Centre. http://www.unep-wcmc.org//protected_areas/data/wh/macquari.html, accessed 18 August 2006.

Wolfe, R. & Putler, D., 2002. 'How tight are the ties that bind stakeholder groups?', in *Organizational Science*, volume 13(1), 64-80.

Worboys, G., Lockwood, M. & De Lacy, T., 2005. *Protected Area Management: principles and practice*, second edition. Oxford University Press: South Melbourne.

Wouters, M. & Hall, M., 1995. 'Managing Tourism in the Sub-Antarctic Islands', in Hall, M. & Johnston, M. (Eds), *Polar Tourism: Tourism in the Artic and Antarctic Regions*, 257-276. Wiley: Chichester.

WWF Australia, 4 April 2007. *Ship to set sail and still no decision on Macquarie Island.* Press release, World Wildlife Fund Australia. http://wwf.org.au/news/ship-to-set-sail-and-still-no-decision-on-macquarie-island/, accessed 27 March 2007.

WWF Australia, 26 March 2007. *World Heritage destroyed on Premier Lennon's watch.* Press release, World Wildlife Fund Australia. http://wwf.org.au/news/world-heritage-destroyed-on-premier-lennons-watch/, accessed 27 March 2007.

WWF Australia, 12 December 2006. 'Only a matter of months left to save Macquarie Island's seabirds', in *Sustainable Way of Life*, issue 7. http://wwf.org.au/news/months-left-macquarie-islands-seabirds/, accessed 27 March 2007.

WWF Australia, n.d. *Macquarie Island: World Heritage under threat*, fact sheet. World Wildlife Fund and Peregrine Adventures: Sydney.

Key Informant Communication List

Galbraith, B., 2007. *General Manager, Antarctic Tasmania*, Hobart, Australia.

Green, G., 2007. *Tasmanian Honorary Antarctic Ambassador*, Hobart, Australia.

Hemmings, A., 2007. *Environmental Consultant Polar Regions*, Canberra, Australia.

Jabour, J., 2007. *Senior Lecturer, Institute of Antarctic and Southern Ocean Studies, University of Tasmania*, Hobart, Australia.

Lawson, B., 2007. *Chair, Tasmanian Polar Network*, Hobart, Australia.

Ledingham, R., 2007. *Expedition Leader and Guide, Quark Expeditions*, Oyster Cove, Australia.

McMinn, A., 2007. Director, *Institute of Antarctic and Southern Ocean Studies, University of Tasmania*, Hobart, Australia.

Mortimer, G., 2007. *Owner Operator, Aurora Expeditions*, Sydney, Australia

Reid, T., 2007a. *Macquarie Island Executive Officer, Parks and Wildlife Service Tasmania*, Derwent Park, Australia.

Reid, P., 2007b. *Program Manager, Quarantine Tasmania*, Hobart, Australia.

Rothwell, D., 2007. *Challis Professor International Law, Australian National University*, Canberra, Australia.

Russ, R., 2007. *Owner Operator, Heritage Expeditions*, Christchurch, New Zealand (conducted by telephone).

Springer, K., 2007. *Eradication Process Officer, Parks and Wildlife Service Tasmania*, Derwent Park, Australia.

Appendix A: Schedule of Questions

Q.1 What do you believe are the values of MI? Does the Island hold any personal values for you?

Q.2 Are you familiar with the MINR Management Plan 2006 and its vision?

Q.3 Do you believe MI is under threat from future alien introductions?

Are quarantine measures sufficient and effective?

Q.4 What is your view on the current visitation restrictions for MI?

Do you believe zoning is effective, appropriate and/or necessary?

Q.5 What is your view on the current arrangements for logistics and operational support?

If AGAD pull out or scale back how could any shortfalls be overcome?

Q.6 Do you believe there is enough scientific research being undertaken?

How do you perceive the impacts of research as a human activity?

How should research be prioritised?

Q.7 Do you believe MI is adequately funded?

How could funding conflicts be resolved?

Would changing jurisdictional arrangements assist in overcoming funding conflicts?

What other sources of funding are available?

Q.8 Do you believe tourism is a suitable and valid human activity in this nature reserve?

Is it appropriately managed?

What opportunities do you think might arise in the future (destination development, greater flexibility in activities etc...)?

Q.9 What is your view on the Utas proposal for a field camp?

How do you think it would benefit or disadvantage MI and Tasmania?

Q.10 What is your view on stakeholder relations?

Is there enough consultation and has it been constructive?

Q.11 Do you believe there is enough promotion and community involvement in MI?

How could the wider community become more involved?

Q.12 What role does MI play in Tasmania's economy?

How might this change in the future?

Q.13 What do you foresee for the future of MI in the next 5/10 yrs?

What would it take to achieve this?